JOURNAL

OF

FARM ECONOMICS

VOL. II. APRIL, 1920. NO. 2

PRICES OF FARM PRODUCTS.[1]

The first page cover of the July, 1920, issue will read as follows at foot of page:

PUBLISHED QUARTERLY BY

THE AMERICAN FARM ECONOMIC ASSOCIATION

(Formerly the American Farm Management Association)

41 NORTH QUEEN STREET, LANCASTER, PA.

Price, Single Copies 50 Cents

prices. The destruction of war materials,—ships, coal, iron, wool, has had a much more serious effect. But destruction of property can explain only a very small part of the price changes.

The killing of a large number of men of the most productive ages without a corresponding decrease in old men, women, and children has tended to cause a shortage of goods.

But the most powerful influence in causing a shortage has been the loss of time due to employment of many millions of men and women in war work.

[1] Paper read at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 12, 1919.

Our railroads are short of rolling stock. The cars and tracks are badly out of repair, because the persons who would have been building cars and engines, and keeping up the tracks have been doing war work.

Our houses are unpainted and unrepaired, and new ones have not been built as rapidly as would have been done, because the builders have been doing government work or serving in the army.

The stocks of goods on the shelves of the stores of the world are low, so low that it is often not possible to buy. To properly carry on trade the stocks that lie on the shelves must be replenished. The clothing supplies, furniture, and stocks of other goods in the homes are low. These reserves must be supplied.

The fences and buildings on farms have not been kept up. These must be repaired and new ones built to make up for the several years in which such things have been neglected.

The greatest factor in shortage of goods has been the transfer of workers from productive work to war work. The evidences of this shortage are everywhere, from the neglected farm fence to the railroads, and from the home wardrobe to the cotton warehouses.

A recent report from the United States Department of Agriculture gives the number of livestock before the war compared with the latest figures from France, Italy, Switzerland, Belgium, Netherlands, Denmark, Sweden, Germany, United States, Canada, Argentina, Australia and New Zealand.[2] Cattle increased 5 percent, sheep decreased 1 percent, and hogs 7 percent.

Taken all together the shortage of goods explains only a little of the general high-price level, altho it does explain many single cases where the price is much above the general price level.

Inflation.

The primary cause for the general high-price level is inflation.

The monetary circulation of the United States in 1919 was 72 percent greater than for the five years 1910–1914. Most of the business of the United States, variously estimated at 75 to 90 percent, is done by bank deposits which circulate as checks. The improvements in banking methods have made it possible for a dollar in currency to do much more business than formerly. Bank deposits are, therefore, a better measure of the total circulating media than monetary circulation. Bank deposits in 1919 were 111 percent greater than for the five years 1910–1914.

[2] United States Department of Agriculture Weekly News Letter to Crop Correspondence, October 22, 1919.

In 1915, bank deposits were up 18 percent but wholesale prices of "all commodities" were up only 6 percent. In 1916, deposits were up 46 percent and general prices 25 percent. Not until 1917 did prices catch up with bank deposits. Since that time bank deposits and prices have kept pace with each other.

TABLE I.—*Index numbers of monetary circulation, bank deposits, wholesale prices of food and all commodities, and prices paid to producers for farm products, in the United States.*

	Monetary Circulation.[3]		Bank Deposits.[3]		Index[4] Numbers Wholesale Prices of Food.	Index[4] Numbers Wholesale Prices of "All Commodities."	Index[5] Numbers Prices of 30 Farm Products.
	Amount in Millions.	Index Numbers.	Amount in Millions.	Index Numbers.			
1910.....	3,154		10,980				
1911.....	3,238		11,503				
1912.....	3,304	100	12,455	100	100	100	100
1913.....	3,390		12,678				
1914.....	3,505		13,430				
1915.....	3,682	111	14,411	118	106	102	101
1916.....	4,159	125	17,840	146	128	125	121
1917.....	4,914	148	21,273	174	179	178	185
1918.....	5,579	168	23,759	195	192	200	199
1919.....	5,709[6]	172[6]	25,731[6]	211[6]	208[6]	208[6]	198[6]

Some persons have thought that food prices or prices paid to farmers were the cause of all price increases. It will be observed that wholesale prices of food, prices paid to farmers, and wholesale prices of all commodities all increased at practically the same time, but that all lagged behind the increase in bank deposits.

Prices during the Civil War followed the same course.

OTHER EXPLANATIONS OF HIGH PRICES.

Among the numerous other beliefs as to why prices are high may be mentioned, the fixed price for wheat, failure to sign the peace treaty, profiteering, high wages, etc.

The price of wheat was reduced by the fixed price so that in the beginning the fixed price was certainly not the cause of high prices. The price of wheat for the 1917 crop was so low compared with other things that we resorted to all kinds of patriotic appeal to prevent the

[3] E. W. Kemmerer, *American Economic Review*, Vol. VIII, No. 2, June, 1918. Figures for 1918 supplied by Professor Kemmerer.

[4] Recalculated from Reports of the United States Bureau of Labor.

[5] Calculated from Reports of the Bureau of Crop Estimates, United States Department of Agriculture.

[6] Figures for 1919 represent only a portion of the year.

use of wheat, made regulations to prevent its sale for stock food, and then practically ran out of wheat before spring. The price of the 1918 crop was so low that the supply of wheat was practically exhausted before the new crop came. At all times since the price of wheat was fixed, wheat too poor for milling has been selling in New York for chicken feed at prices above the fixed price for good wheat.

TABLE II.—*Index numbers of wholesale prices, Civil War and World War. Five-year average before the war equals 100.*

Civil War.		World War.	
1856–1860 = 100		1909–1913 = 100	
1861	95	1914	102
1862	112	1915	103
1863	141	1916	127
1864	181	1917	180
1865	205	1918	202
1866	181	1919 Jan. to	
1867	163	July	211
1868	152		
1869	145		
1870	135		
1871	129		
1872	132		
1873	130		
1874	126		
1875	121		
1876	112		
1877	105		
1878	96		
1879	92		
1880	101		

Profiteering is a result rather than a cause of high prices. Financial inflation has made it possible to obtain a good profit by going in debt for goods and holding them to sell for an increased number of cheap dollars with which to pay the debts. Since someone must save eggs, potatoes and butter for winter use, someone has inevitably sold for more dollars than usual. Store keepers and families with the usual supply of goods on hand found these supplies increasing in price. In some instances the supply held by one person has been so large as to be justly called "hoarding," but in general, the stocks of goods have moved out too rapidly, so that the supplies have not lasted till the next harvest, showing that "hoarding" has been the exception, not the rule. Profiteering is an inevitable result of rising prices. It is not the cause of high prices.

Wages have lagged behind inflation and prices. So with practically every other popular explanation of high prices, the assigned cause has been an effect that followed high prices rather than caused them. Probably we shall soon see high land prices assigned as the cause of high prices, but land prices are one of the last things to respond to price changes.

How Long Will Prices Be High?

The popular idea as expressed by most newspapers was that prices should fall at once when fighting stopped. Much surprise and impatience was expressed because prices did not drop. Now the tendency seems to be to believe that prices will never fall, and that everyone should proceed as if present prices were to continue forever. Some able economists hold this view. I believe, however, that the majority of the students of prices will agree with my conclusion expressed as follows: Since inflation is the primary cause of high prices, and shortage of goods the major secondary cause, prices may be expected to fall as the inflation decreases and the shortage of goods is supplied. If this is true we turn our guessing contest to the problems of when the shortage of goods will be made up and when deflation will take place.

Making up the Shortage of Goods.

The necessary repairs of farms, railroads, factories and houses, and some new construction together with the necessity of replenishing the stock of goods in stores and houses calls for a very large production. We may expect a very active demand for goods until the shortage is made up. How long this will be depends on the weather and the stability of the workers of the world. Ultimately, the Balkans and Russia will come back into world affairs. These countries were large exporters of food. How soon they will again compete with us is one of the most uncertain problems of all.

It seems probable that it will take several years, probably three to five years to make the necessary repairs to property. During this period there will doubtless be a very active demand for goods. There will probably be periods of uncertainty, violent price fluctuations, and small panics here and there, but one would expect them to be short.

The tendency to clear new lands and build new railroads and homes will doubtless be checked by the high prices and to some extent, by expectation of lower prices. It is, therefore, to be expected that after the necessary repairs are made there will be a slackening of industry and that a financial panic may occur. The weather and fear

of wars and revolutions will probably be the factors that will determine the exact point at which a panic comes.

Those who can foresee possible panics in periods of prosperity and can see through a panic to the sound business growth that is to follow, can perform a public service by encouraging a sound development rather than wild speculation preceding the panic and can help the gloom of the panic by seeing the prosperity that is to come.

DEFLATION.

Considering America alone it would seem probable that the time should come soon when government receipts will exceed expenses. When this time comes the process of deflation might be expected to begin. But other factors influence the results. The European countries have inflated their currency more than we have. Inflation tends to equality between the different countries before stable equilibrium is reached. When we entered the war we paid our debts to Europe and made large loans to it. These loans prevented as great inflation of their currency as would otherwise have occurred but served to rapidly increase our inflation. This leveling-up process must continue. We cannot continue to trade with Europe unless she brings goods in exchange or unless we lend her money. Foreign exchange is now almost prohibitive.

The purchase of property in Europe would lower exchange without inflation here. Some such investments will doubtless be made, but Americans are not generally disposed to buy European property. The primary means of financing trade will probably be through the sale of European bonds in America and the extension of commercial credit to European buyers. Some of these bonds will be used for bank credit and consequent inflation in this country. It is, of course, possible that the tendency to deflation will offset these loans but this does not seem likely. Ultimately, we will also assist in financing Russia. Government activities attempting to reduce the high cost of living may result in action that will check inflation but it is much more likely that such efforts will continue to spend themselves in looking for profiteers and hoarders rather than in taking action that would check the cause of high prices.

Considering all these possibilities, it does not seem that deflation will be very rapid immediately and it is probable that the period of maximum inflation is yet to come.

Since the situation is now world-wide it seems certain that the drop in prices will not come as soon as it did after the Civil War and that the drop will be more gradual when it comes.

JOHN A. HOPKINS, JR.

The pre-war level may never be reached but it seems probable that a very considerable drop in prices will take place in five to fifteen years.

May I digress enough to call attention to some public effects of inflation.

When the dollar is unsettled the most far-reaching social effects follow. Theoretically if currency doubled and if all prices doubled at the same moment the world might go on as usual. But when the dollar is so unstable it unsettles the minds of men. The economic balance gradually adjusts itself to the new level but unequal periods of time are required and most serious injustices occur in the settlement. The most serious result is that newspapers, government officials and the general public try to blame the results on some class in the population. It is true that the unstable dollar makes fabulous profits inevitable. It encourages sharp practices, but the results are not due to the acts of labor, or capital, or farmers, or middlemen. The arraying of class against class is the most serious result of financial inflation. In efforts to find the culprit, farmers are arrested, retailers are accused of dishonesty, middlemen are called an unmitigated evil and labor is Bolsheviki if it asks for higher wages. All classes turn to governmental agencies and expect the government to find and punish the culprit who prevents me from living better than ever before when the quantity of goods in the world is less per capita than formerly. The Russians have carried this to the ultimate conclusion in their blissful philosophy that "each of us can live at the expense of all of us without any of us doing any work."

Rising rents and land prices may be the next to draw attention. We should distinguish clearly between real unearned increment and adjustment in prices to meet the new dollar. If a farmer sold his farm five years ago for $100 per acre but now sells it for $200 he could in each case buy about the same quantity of other things. He would be no better off than if he had sold before the war. If he sold at the higher figure and paid debts with the money he would have profited at the expense of the lender, but society in neither case has any just complaint to make. In each case, it would have exchanged the same quantity of other goods for land.

If society objects to rising land values, the farmer might propose to society that he be paid in goods rather than in fifty-cent dollars. Those who do not believe in private property will say that the land all belongs to society. But even this philosophy does not cover the case for a very large part, and often all the selling price of agricultural land is a delayed payment for the labor of making the farm.

When the dollar is so unstable, how is the wage worker to know whether he is getting his share of the good things of life?

In all this social nightmare when each person has lost his faith in his fellow men, and even sometimes his faith in God, because the dollar has ceased to be reliable, the farmer can perform a great public service. The farmers are about the only class in society that are in a position to think in terms of things without dollar confusion. They can express the value of a bushel of wheat or a quart of milk in terms of labor.

Why are Certain Prices High?

The factors that will explain most of the deviations from the general price level are (1) the length of time from the beginning of the production of the product to its completion, (2) the weather, (3) change in demands due to war. Each of these influences acts independently of the others. Some combination of them working coöperatively or against each other together with inflation explain most of the individual price curves.

Products that require a short time from beginning to completion are quickly stopped if prices do not keep up with the general price level. Grains are in this class and prices of grains rise promptly. It takes several years to raise a cow and milk responded slowly to inflation. In the case of colts and calves the reduction in the industry at first increases the apparent surplus. If calves are not raised there is more milk on the market—that which the calves would have used. If colts are not raised the mares can do more work.

Day labor shifts quickly and its pay was the first to be adjusted. Skilled labor is more stable and received its wage increase later. It takes several years to make a stenographer or clerk and salaries of clerks rose more slowly. To raise a college professor requires even more time than to raise a dairy cow and professors' salaries respond more slowly than most other things. Before they do rise there will be a great shortage of professors and well-trained men preparing for professorships.

Certain products are relatively more needed in war than peace. Wool, iron, grain, ships are among these things.

The soldier wore out his clothes perhaps five times as fast as in peace, and he needs wool. This explains the phenomenal rise in price of wool that occurs at each war.

Animal foods are less in demand when the first pinch of war comes because consumers turn to the cheaper vegetable foods. This checks

production. Later when wages rise there is an active demand for animal foods and a shortage of them.

Since the first result of inflation is to increase prices before wages rise, many families moved to smaller homes or took roomers. Rents fell very low particularly in London and in New York. Buildings and building materials dropped in price or failed to rise. As wages rose, families began to spread out again and rents and building values rose. But rents and the general price level have to meet before much building is done. When the building begins the supplies of lumber on the way from the forest to the home are low and rise in price above the general price level is to be expected.

Land is one of the last things to rise in price. Crop land rose before dairy land just as crop prices rose before milk prices.

The effect of weather is well shown by potatoes. The 1916 crop was short because of the weather. In 1917, a great effort was made to increase the acreage. The weather also coöperated. The crop was so great that many farmers sold the crop for little more than they paid for the seed.

The dollar is no longer a good measure of value (if it ever was a good measure). The best measure of value is purchasing power. Comparisons of wages and prices of particular commodities with the general price level, or purchasing power, furnishes a much safer basis for forming conclusions.

Another factor to be considered, when the dollar is so unstable, is uncertainty. Slight changes in price tend to small panics in the industry and are likely to be followed by equally violent reactions.

The remaining portion of the paper is given to details of each of thirty farm products for each month since the war began and to comparisons with the Civil War period and the period following the Civil War.

AGRICULTURE AND PRICES.[1]

JOHN D. WILLARD,

MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST.

A division of the subject is obviously necessary. To discuss the entire topic would require the time allowed for a full semester's course. The student may approach the subject from the standpoint of abnormal phenomena which have appeared during the war, or from the standpoint of peace-time phenomena interrupted by the war. One observer, from the habit of agricultural thinking, expects to find that agriculture as the largest extractive industry furnishes the basis for all price phenomena. Another observer from the business world approaches the subject expecting to find that agriculture must surely reflect the prices and conditions of general business. All open-minded students must ultimately reach the conclusion that the abnormal price phenomena of war time are but the modified results of unchanging laws which still obtain in peace time; and that the phenomena of agriculture and "business," so-called, interact, neither set being wholly cause or wholly effect.

At the present time some effort is being made in a study of producers' prices as compared with consumers' prices. Such study furnishes little enough consolation to either producers or consumers, but serves the useful purpose of giving a more correct perspective to the part which farmers' prices play in the present high living costs.

It has seemed best to limit this paper to a commentary on some forces and factors that influence the determining of price levels under peace-time conditions. While war-time prices are a matter of both concern and wonderment, we are after all particularly interested in the price levels which are to obtain in the future, and with the forces and factors which will influence the determining of these price levels. It has, therefore, seemed best to choose a single concrete problem of agricultural prices and follow its lead to the forces which influenced prices before the war; to the modifications which came under war conditions; and to the probabilities in the years to come. For this purpose I have chosen the milk industry of New England. The milk industry furnishes one of the most complex problems of

[1] Paper read at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 12, 1919.

price determination. It is also the historic sore spot in dairy sections, and as dairying is after all the basis of New England agriculture, it is the matter of greatest importance in future New England agricultural prosperity. Furthermore, prices of fluid milk in New England are really crystallized in the Boston market and this discussion will for the most part center around Boston market conditions.

Greater Boston, which is a unit in the matter of milk supply, requires twelve to fifteen million quarts of milk monthly. This supply is drawn from five New England states, New York, and to a very slight extent from Canada. Fifty-three percent of the total supply comes from the state of Vermont; twenty-two percent from Maine; thirteen percent from New Hampshire; six percent from Massachusetts and the remaining small balance from Connecticut, New York and Canada. The Vermont territory is, therefore, the largest single factor, with Maine second. Boston is also the market for northern creamery butter and is the point at which price levels of northern creamery butter are related to western creamery butter. The competition of western creamery butter determines the price level of the northern creamery, as the northern cannot carry too large a premium over the western. The price of northern creamery butter strongly influences milk supply conditions in the Boston fluid milk market.

For many years Vermont was essentially a manufacturing rather than a milk shipping state. Butter and cheese factories were scattered through producing sections and were the only outlet for dairy products. These same butter factories, too well built to pass into quick decay and too obsolete to compete with the middle western butter factories, are a part of Vermont's dairy problem at the present time.

When the population of greater Boston grew to the point of demanding more milk than the territory immediately around Boston could supply, the milk buyers went into New Hampshire and Vermont. The producers, unaccustomed to methods of rightly appraising profits, were easily tempted to withdraw milk from the butter factories and sell through Boston contractors, who were in a sense only brokers, buying a supply in the country and forwarding it to the real distributors in the city.

Ownership by Farmers of First Facilities for Distribution and Manufacture.

At this point the first large force influencing price levels for dairy products made its appearance; namely, the purchase of producers'

plants by milk distributors from the cities. As the prices offered for dairy products were attractive, butter factories along railroad lines soon found themselves in trouble through diminishing volume, and it was rather an easy matter for milk buyers from Boston to secure control of these factories; particularly easy because the majority of creamery corporations were not organized along strict coöperative lines but were stock companies in which the stock carried the right to vote.

Prices fell as soon as the Boston buyers of milk had succeeded in getting control of local creameries. The only competing market for milk was gone. As individuals, farmers were unable to go to the distant city market and sell their milk effectively. They lacked organization to do collective bargaining. In St. Albans, for instance, just before the war the producers had lost control of local plants and the only condensary purchasing in the area was paying one dollar per hundred pounds for milk, while in the nearby hills butter factories still owned by farmers were paying one dollar and seventy cents per hundred pounds. What happened in St. Albans happened to a greater or lesser degree in all milk supplying territories of New England, and the first step away from economic and marketing independence had been taken by the farmers.

This principle, so simply illustrated in Vermont conditions, is all important in the marketing of agricultural products which must move to distant markets. In those parts of Vermont which have undertaken the correction of the evil much better conditions may be found today. The milk producers of St. Albans reorganized to get back control of the situation and had actually broken ground for a competing plant, when the distributing company saw the handwriting on the wall and sold out their plant to the farmers. This brought back a condition of independence, in that the producers again owned the first facilities of distribution and manufacture.

Genuine coöperative plants are being completed in various parts of the territory at the present time with the result that prices have substantially improved for the producers using them. In the Maine territory the New England Milk Producers'Association has at present undertaken the purchase of the plants of a large independent company and are even undertaking the control of facilities of distribution in the market; whether wisely or unwisely time alone will tell.

The Southern Produce Exchange of Norfolk, Va., by coöperative selling facilities removed the strangle hold of the country buyers. In the Connecticut Valley tobacco growing areas, the coöperatively

owned tobacco warehouse, enabling farmers to sort their own crops and hold them for favorable markets, has already had a distinct influence on the price offered by tobacco buyers; not only to members of the exchange, but also to non-members. The difference between eighteen and thirty cents per pound represents the contrast between prices offered in a territory without coöperative warehousing, and prices offered in the Enfield, Connecticut, territory with a strong coöperative exchange. The California Fruit Growers' Exchange, the United Grain Growers, Limited, and a host of other farmers' corporations have been built upon the principle that until the producer is able to avoid the necessity of taking sacrifice track-side prices for his products, he is not in a position of marketing independence. Since he has not the facilities for storage and for manufacture, or for routing his product to optional markets, he is in a position of dependence upon the whim and mercy of those who dictate track-side prices. The Richmond, Vermont, milk producers were some years ago limited to the price paid by the Borden Company at their station. Today, their own corporation takes their milk, and is equipped to sell it in whatever market will pay the most, and in whatever form is most in demand; fluid milk, raw or pasteurized, butter, sweet cream, or ice-cream. This plant is one of several in the Vermont territory and the forerunner of many.

Where coöperative ownership of the first facilities of distribution and manufacture is desirable, it becomes necessary to decide what form of farmers' organizations are best suited to this work. The first attempts were by the ordinary stock corporations, organized under the general business law. These were soon replaced by truly coöperative organizations, in which voting was by individuals rather than by stock. Still another type has developed because of the wording of the Clayton Amendment to the Sherman Anti-Trust Law; namely, non-stock, membership corporations. These are financed by the use of the collateral loan note in place of the stock subscription. Each type of organization has its supporters and its advantages for certain industries and locations. One all-important matter to insure, however, is that the organization is so formed that control cannot pass from the hands of producers to the hands of those who buy their product.

Another matter which is coming to the fore in New England at present is the danger of competition between farmers' plants. The original conception of the New England Milk Producers' Association was that each member was a part of a large overhead body and exer-

cised his right to vote in person or by proxy at the annual meeting. The result of this first effort was disastrous and many factors contributed to its failure. Control easily passed into the hands of a few who, however sincere, were not representative of the entire territory and of the entire industry. The meetings of the corporation were attended by but few. The real work of the association was little appreciated by a great number of producers and finally through conflict with statute the association was dissolved and its business liquidated.

The present New England Milk Producers' Association is built upon a local unit composed of milk producers who ship from a common point of origin. Each local in a county sends a representative to a county branch. The presidents of the county branches are the directors of the New England Association. As a result of this, every part of the producing territory is represented in discussion and in vote. The solidity of a producers' organization will depend among other things upon the solidity of its locals and upon the ability of the overhead to furnish marketing facilities so that cut-throat competition between locals is eliminated, as in the case of the California Fruit Growers' Exchange.

Many attempts are made from time to time to organize coöperative exchanges through the creation of a large overhead and the subsequent development of branches. Aside from the United Grain Growers, Limited, the writer is not aware of any large coöperative movement for selling or buying that has not developed through the growth of locals and through subsequent amalgamation into an overhead organization.

Buyers' Monopoly of Shipping Facilities.

At this point another factor entered to cause disturbance to the farmers. The buyers from Boston were able to lease cars from the railroad systems and operate them as an effective monopoly. Producers were unable to mobilize enough milk at a shipping point to make possible the operation of their own cars, and were unversed in methods of finding an outlet for their milk if it had been possible to operate such cars. This move on the part of buyers, added to the control of competing markets by buyers, had a most disastrous effect upon prices. It was possible for them to make their offerings as low as they pleased, limited only by the bankruptcy limit of producers. The latter contributed their labor, and depleted their soil without reward, receiving just about enough for their milk to permit sub-

sistence and the payment of the grain bill. This was the blackest hour in the history of New England dairying.

The Massachusetts Legislature attempted to remedy conditions by passing a law which in effect broke the leased car monopoly in the state. Massachusetts producers were thereby enabled to get to the Boston market because of the open car facilities which the law compelled, but reaching Boston they found themselves still in competition with milk produced in Maine, New Hampshire and Vermont and moved in leased cars. This is but an illustration of the futility of attempting to correct regional ills by state effort.

In 1916 the Inter-state Commerce Commission made new tariffs for New England, abolishing the leased car monopoly and placing milk tariffs upon actual mileage travelled regardless of number of roads involved. As a result of this, competition between buyers was actually restored and the market in Boston was open to all producers on equal terms.

Further inequality of tariffs was corrected by the Inter-state Commerce Commission ruling. For instance, it had been possible for milk to move from Dover and Foxcroft in Maine, over two railroad systems, a distance of two hundred and forty miles, into Boston at about one half the cost for moving the same quantity of milk a somewhat less distance from Vergennes, Vermont, also over two railroad systems. It is obvious that before the correction of tariffs, Vermont territory was under a handicap of from one third to one half cent per quart because of this tariff injustice: this being the per quart difference in the rates.

The transportation monopoly as it has existed in New England is suggestive of conditions that still prevail in other branches of agriculture. The supply of heater and refrigerator cars is not adequate, particularly on eastern lines, and the ownership of adequate equipment by certain firms gives these firms distinct advantage over smaller shippers.

Sinister control of car supply in grain shipping territories has been charged for many years past, with the inference that some shippers of grain are penalized because of favoritism and discrimination. The manipulation of car supply, if possible for buyers, may have the distinct effect of depressing the price to producers at the shipping point; at the same time creating a shortage to the consumers in the markets. It may be argued that such temporary shortage of cars with depressed price for a matter of days or weeks will be corrected in another swing of prices. It is, however, quite commonly the expe-

rience of producers that while they are sure to feel the ill effects of an oversupply at the market or shipping point, they are too seldom the group who feel the beneficial results of active demand and short market supply with resultant high prices.

The future ownership and control of railroads is a matter of supreme importance to producers. It is important that an adequate supply of rolling stock should be in existence and that it should be available impartially to all producers. It may well be questioned whether, if the government continues a measure of control over railroads, it should follow the policy of abetting a partial monopoly in the form of privately owned refrigerator cars; whether it should abolish all possibilities of privately owned refrigerator cars, or whether is should create public facilities parallel to private and adequate to all needs. While producers endeavor to guard their interests by adequate transportation facilities, it is necessary for them also to recognize that commodities such as milk are ephemeral in character and the demand for milk is ephemeral. What the consumer does not drink today is not required tomorrow or next day. Other commodities by way of contrast have a seasonal demand, as wheat for milling purposes, and delay of a day or a week in providing transportation facilities does not affect the ultimate consumers' demand for the product. It is essential that farmers insist upon adequate provision for daily movement of commodities that are in daily and ephemeral requirement. It may, on the other hand, be necessary for farmers producing less perishable commodities to overcome the shortage of transportation facilities by building adequate storages for themselves.

A further matter suggested by the discussion of railroad rates is the question of future rail tariff levels. The railroads of the country are not in a happy financial situation and their present condition points to advance in railroad rates. This may be a necessity, but it has the effect of raising prices on all the commodities which the farmer must buy and of further raising prices for his products in the markets or of lowering returns to him, depending on conditions of competition and market demand. Together with this problem of advancing freight rates comes the problem of subsidizing shipping. It is not inconceivable that corn from Argentine may be delivered to feeders in Maine or Georgia cheaper than Iowa corn can be delivered to feeders in Ohio and Indiana. It also means an extra tax on western beef reaching eastern markets; and may prove to be the equivalent of subsidy to Argentine beef. Now, if ever, is the time when representatives of agriculture may affect future price levels by guarding agricultural interests in matters of transportation legislation.

Collective Bargaining

As indicated earlier in the paper, the New England Milk Producers' Association has attempted collective bargaining in time past and has suffered a disastrous failure. With the opening of transportation by the abolition of the leased car, the dairymen undertook a new chapter of organization. The reorganized New England Milk Producers' Association formulated changes in the system of buying, and demanded that prices be based upon delivery in Boston; that they should be uniform for points equi-distant from Boston; and that prices paid at various railroad stations should diminish directly in proportion to the cost of moving the milk from the shipping point into Boston. A strike was called to coerce such dealers as were unwilling to agree to this and in the fall of 1916, beginning with the installation of the new tariff rates dated October 1, the entire system of milk buying was changed to this basis. In this new attempt at collective bargaining the New England Milk Producers' Association was wholly successful.

During the period of the war the Federal Milk Commission for New England found it necessary to deal directly with some body of farmers, and the New England Milk Producers' Association served as this body. The war emergency, therefore, enabled the producers to achieve a solidarity which would hardly have been possible under peace conditions; as the findings of the commission applied only to producers who were members of the organization.

At this point a distinction should be made. Collective bargaining as we understand it does not necessarily involve the physical handling of the product. In too many cases it designates arbitrary or coercive demand. Coöperative selling as we understand it implies physical handling of the product and the performance, by the farmers' corporation, of some of the functions of distribution. Utility is added in some form or other to the product. Coöperative selling may well be understood to include collective bargaining, but is a larger function than collective bargaining as the term is generally understood. The present status in the New England territory is anomalous. The New England Milk Producers' Association, controlling the milk of perhaps twenty thousand producers, bargains with the large distributors of Boston and because it is a virtual monopoly, these distributors are obliged to purchase from the Association. At the same time, the New England Milk Producers' Association has recently acquired control of the Turner Center Dairying Company with country facilities and with a large wholesale city plant. This organization is, therefore, competing with its customers; a con-

dition which has not proven to be sound in other lines of business. Furthermore, recent investigation shows that the Turner Center city plant, now controlled by the producers, has been cutting the wholesale price of milk to can purchasers, such as hotels and restaurants; and is virtually compelling the acceptance of similar business by other large corporations at a loss. In a measure the same condition has obtained in Portland, a strike having been declared against some of the distributors supplied by the Association, with the virtual capturing of trade by the Association through its local distributing facilities.

It should be stated that the New England Milk Producers' Association has at no time consciously attempted to set unfair prices upon its product. It has always avowed its intention to ask for no more than cost of production plus a reasonable profit. Further comment will be made upon this in the paragraph on "Price Fixing."

At the present time labor and agriculture are under joint suspicion in the public mind because both enjoy a common exemption in the Clayton Amendment to the Anti-Trust Law. The overreaching demand of labor in matters of collective bargaining has caused public revulsion. Agriculture will do well to watch this development in public opinion. Already both state and national legislative powers are considering further curbing of labor in the matter of the monopoly exercise of collective bargaining. It is not at all impossible that the unpopular program of collective bargaining by labor may react very unfavorably on the public mind in connection with agriculture and may even lead to the annulment of the present exemption. Furthermore, if agriculture follows the present lead of labor in extreme demand, there can be little question as to the final outcome.

The argument has been raised that the Clayton Amendment constitutes class legislation for employees (laborers) and farmers who secure special exemption and that, therefore, the law is pernicious. We must not lose sight of the fact that employers of labor, sellers of farm supplies, and buyers of farm products can easily make clandestine agreements; while laborers and farmers cannot. The effect of the present law is to legalize for farmers and laborers that which the rest of society can and does accomplish in secret. It removes from farmers and laborers the disability which must surely rest upon them if agreements in matters of trade are to be made unlawful.

Price Fixing.

During the period of the war milk prices in Boston were determined by a Federal Commission of the United State Food Administration. In May, 1917, the Massachusetts Food Administration furnished

funds for a survey of the cost of milk production in the state. This work was extended by corresponding surveys in Maine, New Hampshire, Vermont and Connecticut; and the work was undertaken jointly by the Agricultural College specialists and the Boston Chamber of Commerce. The results of this survey were published by the Chamber of Commerce and were available for the work of the Commission.

The difficulties in the way of determining cost of production have been so much debated that further discussion hardly seems necessary. Suffice it to say, however, that only with the greatest difficulty did the Milk Commission agree upon prices that were considered fair by all members of the Commission. In fact, nearly every verdict was recorded with one vote (that of the Labor representative) dissenting. It is significant, however, that after the announcement of the findings of the Commission the public accepted what at first seemed a preposterous price and made little or no complaint. The same is true at the present time. The Massachusetts Commission on the Necessaries of Life has just approved the highest price ever paid for milk, yet up to the time of leaving, last Friday, November 7, not a complaint from consumers had been received. Price fixing, however fallacious or wrongful, has had the virtue of reassuring the public so that consumers do not feel themselves victimized.

The Federal Milk Commission had hardly begun its work before it was confronted with the problem of surplus milk. A surplus plan was worked out by which distributors accepted all milk offered and manufactured the surplus not used in direct consumption as fluid milk, making returns to producers for such portion on basis of the manufactured product. This surplus plan has been in effect more than a year and while not wholly satisfactory, it has been a fairly successful attempt to place the losses occasioned by surplus at the door of those who produce the surplus. Another matter which seriously hampered the work of the Commission was price-cutting. Various small distributors furnishing an inferior grade of milk or handling it by less careful methods were able to sell below the Commission's fair price. Consumers were quite naturally inclined to wonder how some dealers could sell for less money than others. Small distributors cut prices in all classes of trade. Large dealers cut prices in the wholesale or can trade and assessed these losses on the household trade, which was less able to carry them.

An illustration of the effect of arbitrary price fixing on the dairy market is found in the sudden and violent depression of butter prices in January, 1919. Going back in history, the Food Administration,

in the late summer of 1918, urged farmers to accept a relatively lower guaranteed price for butter than market prices then obtaining; arguing that if the market were allowed to run riot it would cause a decrease in demand and fall of its own weight. The farmers' representatives in Washington preferred to take their chances with the future market and the predictions of the Food Administration proved erroneous. In January, 1919, the press carried a report that large quantities of New Zealand butter were available. Dealers were at the same time informed that stocks which they had been holding for the government were released. Butter prices fell from $.67 to $.48 per lb. The conditions, however, were fictitious; in fact the market immediately climbed back; the government still held under its control the requisitioned stocks and the New Zealand butter did not come in with sufficient volume to break the market. Fiat abrogation of the equation of supply and demand was not a success, but it cost the New England farmers hundreds of thousands of dollars.

If any further evidence is necessary of the power of the government to manipulate prices, or of the intent of the government to manipulate prices, note the following quotation from the President's Message to Congress on the high cost of living as contained in the Congressional Record of August 8, 1919:

> Wheat shipments and credits which facilitate purchase of our wheat can and will be limited and controlled in such a way as not to raise but rather to lower price of flour, which the government has the power, within certain limits to regulate. . . . The price of wheat is lower in the United States than in Europe and can with proper management be kept so.

Competition by Agricultural Bankrupts.

In no other productive industry is it possible for price levels to be so seriously influenced by bankrupts as in agriculture. The manufacturer of shirts who is unable to meet drafts for material and unable to meet his payroll must forthwith cease producing. In agriculture the producer pays but a small part of his material cost in the form of cash for seed, fertilizer and feed. His principal outlay is for labor. By paying himself little or no wages and by using the unpaid labor of his family, at the same time depleting his soil fertility, many a farmer is enabled to continue production although virtually insolvent. The product of such agriculture is always obtained at abnormally high cost, and the producer fails to realize how great this cost really is. The product is usually sold at much less than even a normal cost. Throughout the New England section many small milk

markets are all but ruined by the competition of agricultural bankrupts who have come into the market with a blare of trumpets announcing that milk can be produced at less than the accustomed price, and offering to sell at corresponding cut rates. The usual fate of such reformers is commercial extinction, but in the process of extinction they cause general havoc to the producers who are on a sound enough basis to continue in business. One of the very real problems of price determining is the elimination of such agricultural bankrupts from the field of competition. Not that we have hope of ever accomplishing it entirely or accomplishing any part of it speedily; it is a subject for careful thought and continuous educational labor. Not only do such men harm the market by selling for less than a fair market price; there is always an added danger through the demand that their production costs be included in studies which are the basis of price demands.

As one who has been for more than two years associated with governmental agencies that have done actual price-fixing, may I here record the conviction that the arbitrary fixing of prices for agricultural products is fraught with the greatest danger; even if such price-fixing is by the mutual consent of the parties concerned, and avowedly on the principle of costs of production. The fixing of milk prices in New England territory probably saved the dairy industry in war time, and did no one injustice. It has, nevertheless, left the industry out of economic balance. I am convinced that the accurate determination of costs is impossible, in that no man or body of men can determine the margin of the group of producers necessary to supply the market, and costs used as a basis of price-fixing must be marginal costs. Only the interplay of supply and demand can determine how many men, and which men, are necessary. If costs are fixed at a fictitiously high level, too many new marginal producers will come into the fluid milk market and the losses on surplus will nullify the apparent gains. If consumers' prejudice predominates, the present marginal group will be driven out, and a shortage will lead to restoration of still higher prices. It will be a healthy thing for agriculture when these unsound efforts are abandoned.

At the same time I wish to go on record as endorsing more and better studies of production costs for educational purposes. Knowledge by farmers of the facts concerning the causes of the profits and losses will do much toward a healthy relation to market problems and to price levels. Some will lack courage to act on the facts, and will

continue to produce without profit or even at a loss. Many more will either withdraw from unprofitable lines, or will consistently strive to improve methods and turn losses into gains. Only by such process, and by improved systems of marketing, can real progress be made. Monopoly for price coercion is a peril; arbitrary price-fixing by governmental authorities is a delusion. The war experience has had its value, but only as indicating weaknesses, on the one hand; and on the other showing directions in which development must be made.

FARM MANAGEMENT EXTENSION WORK.

The farm accounting schools were the outstanding feature of the farm management extension work in the northern and western states this past winter. The plan of the schools was to have each farmer present work out the same sample farm record in the simple farm account book as a means of learning how to keep, summarize and study his own financial record. The advantage of this method of teaching the importance of farm accounting is well illustrated in the following quotation taken from a report of one of the farm management demonstrators:

"By working out the record in one of the account books, as we do in the farm accounting school, every man and woman in attendance is thoroughly acquainted with how each figure is obtained. Each step taken in working out the record is explained so that everyone thoroughly understands it. They are then able to go home and work out the record for their own farm business, using the one that they made out in the school for reference. From our experience in holding these schools we have arrived at the following table: People composing a general farm audience will remember 1/10 of what they hear, 3/10 of what they see, 5/10 of what they hear and see, 7/10 of what they say, and 9/10 of what they do. Therefore, we believe in the latter method, or in having the people do for themselves the thing we want them to remember."

These schools have been quite extensively conducted in at least fifteen states this year. Generally the farm record that is worked out in the farm accounting school is used as the basis for discussing the factors determining successful farm management, bringing out the importance of such factors as the crop yields, distribution of capital, quality of livestock, size of business, layout of the farm, and efficiency in the use of man and horse labor.

H. C. M. CASE.

OFFICE OF FARM MANAGEMENT,
WASHINGTON, D. C.

SOME FUNDAMENTAL PROBLEMS IN MARKETING FARM PRODUCTS.[1]

GEORGE LIVINGSTON,

BUREAU OF MARKETS, WASHINGTON, D. C.

Research and educational work in marketing stands today where production work in agriculture stood a half century ago. It has not been very many years since the professor of agriculture assumed jurisdiction over the whole field of agricultural production. Today we find that field, once tended by a single individual, divided into a great number of small fields, each jealously guarded by an array of technical experts. Marketing work, in my opinion, must go through the same evolutionary development. Comparatively speaking, the present-day worker in the field of marketing is a pioneer; of necessity he assumes jurisdiction over a wide field. He touches lightly many places, but he is expected to diagnose all the apparent ills incident to marketing and distribution of farm products, and to prescribe a remedy. Everywhere he encounters difficulties; alleged discrimination, unfair practices, unjust profits, too many middlemen, unfair prices, manipulation, speculation, hoarding, improper grading, inadequate facilities for transportation and storage, embargoes, and the like, all of which some one wants solved immediately. He is hurried from one field of action to another with such rapidity that he rarely has time to contemplate the magnitude of his task. Moreover, he does not proceed very far in his work before he is forcibly impressed with the fact that it is impossible to satisfy very many people at one time. There is widespread expectancy that far-reaching, if not revolutionary, results should be forthcoming from every study relating to the marketing of farm products. This, of course, is impossible because the development of agricultural commerce from simple barter and trade of early days to the present complicated system, with its wholesalers, jobbers, brokers and other agencies, has been a matter of slow growth through centuries. One of the fundamental problems, therefore, confronting the agencies engaged in this work is the development of public information to the point where people gener-

[1] Paper read at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 13, 1919.

ally realize that the present marketing machinery is a product of evolution; that any improvement must continue to come through gradual improvement in method and procedure and not through the setting up instantly of a perfectly efficient and automatically operated new marketing machine. The worker in the field of marketing can assist in the development of better marketing practices just as the worker in the field of production has assisted, and is now assisting, in the improvement of general farm practices. Specialization is as necessary in marketing as it is in production. The man who spreads his efforts over a wide range of subjects in marketing as in any other field does not become an expert in any one branch of it. The subject is too big for any one individual to progress far in the solving of its problems unless he confines his activities to a limited part of it. The same fundamental principles must be followed in a development of marketing work that have been followed in the development of any other line of classified knowledge. There is need now for thoroughgoing investigational and research work in each subdivision of the marketing field.

In order to be able to give real service to producers and marketing agencies, the marketing specialist must be utilized. The man who knows fruit and vegetable trade practices may not know, and usually does not know, enough about trade practices in other commodities to give constructive assistance. In fact, the first step in the solution of present marketing problems is in the collection and dissemination of specific and definite information to the interested public. The producer must know trade practices and market conditions in order to be more able to protect himself and to secure full value for his products. Regulatory laws, of course, are necessary, but if the buyer or seller does not know the provisions of the law he may not, and quite likely will not be able to take advantage of the protection the laws afford him. This is one field where, in the immediate future, the marketing specialist can be of great service.

One of the most difficult problems is that of securing properly trained men to undertake investigational or extension work in marketing. Fundamental training in economics and agriculture, supplemented by business experience, together with good judgment and some knowledge of rural and commercial psychology are desirable possessions of a specialist in marketing. It is hard to find this combination of qualities in a great number of men available for marketing work. Good judgment is a rare asset for any enterprise, but I think it pays greater dividends in marketing than in almost any other phase

JOHN A. HOP

of agricultural work. The successful marketing worker also must possess tact and diplomacy; he must be able to gain the confidence alike of the aggrieved farmer and the shrewd business men. He must understand the problems of each of them in order to do this. The farmer freqeuntly has a deep conviction that the man who buys his product possesses a business conscience which permits him to emplay sharp practices with impunity. The business man on the other hand may believe that the check which he writes in payment for farm products is all profit to the farmer. Usually neither is acquainted with the operating costs and hazards of the business of the other. Lack of information and understanding are at the bottom of many of our marketing troubles. The spotlight of publicity will clear up much of the dissatisfaction that exists with respect to present marketing practices and will also light the way for needed reform.

Another problem which confronts workers in the field of marketing is that of educating the business man to the point where he will concede that farmers have a moral right to enter the field of marketing. Today many business men feel that the farmer commits a great moral and economic crime when he extends his activities into the field of marketing. Business men do not confine their activities to one field. In fact, the more successful ones are engaged directly or indirectly in a number of enterprises, frequently including the field of production. Many of them through the holding of stock or through other means participate in the profits of every agency handling farm products from the farm itself to the consumer. If consistency is to rule, therefore, each individual should confine his attention and capital to one enterprise alone, or the privilege of extending activities into two or more fields should be granted to all without prejudice. The farmer is actively entering the field of marketing. We have in this country today more than 15,000 farmers' business organizations with a membership of approximately two millions. Almost all of these organizations are at the local market; the extension of these organizations to the terminal and distributing centers in greater numbers is only a matter of time. The farmer has been accustomed to purchase supplies at retail and market his products on a wholesale basis. Organization will enabel him to purchase supplies at wholesale and participate in the profits derived from the marketing and distribution of his products. Farmers' organizations, as well as the so-called regular dealers, are in need of market information and here the State and Federal agencies engaged in this work have a wide field for service.

The establishment of uniform standards for farm products, the development of reliable and efficient market news services, the collection of accurate data on the cost of marketing, the development of adequate warehouse and storage facilities, and other similar problems await the combined effort of State and Federal agencies to effect their solution. Along with activities of this kind there is need for what may be called special economic studies. For instancge, the enforcement of the Wheat Guarantees has shown the need of study of the relation of prices to grade in the marketing of grain. The operation of a fixed price and fixed grade raised many preplexing problems. The whole question of the economics of standardization of farm products is an intensely interesting and practical problem. Standardization is a simple term, but it has many perplexing angles. While the fundamental economic purpose of standardization is the same for all farm products, the standardization of cotton, for example, as a practical matter, is an entirely different problem from the standardization of grain or of livestock.

Studies in cost of marketing farm products must be undertaken in a systematic and scientific manner, if information on this subject is to be available to supplement that now being obtained relating to the cost of production. The picture is not complete, and neither the farmer nor the consumer will be satisfied until this is done.

Another fundamental problem which deserves serious consideration is that of the rapidly developing tendency of the public at every opportunity to ask for legislation, either state or federal or both, to improve present marketing methods and to reduce the high cost of living. The all too general request that every apparent marketing difficulty be corrected by legislation will only confuse the situation. Wise legislation relating to marketing practices is highly desirable, but the impossibility of legislating effectively to correct all the ills of human kind has long been recognized. Legislation should be enacted which will ensure equal opportunities for all who desire to engage in marketing enterprises, but legislation must not be expected to take the place of, nor to provide experience and native ability. The farmer must learn either from experience of his own or from that of others that when he enters the field of marketing he is subject to the same economic laws that control the destiny of the so-called business man. I, for one, do not believe that the average farmer wants special privileges. I believe also that if he is ensured by regulatory laws a free and open field for the exercise of his ability, he will establish a place in the commercial world which will be not only a source of credit and profit to himself, but also the country at large.

FARM BUSINESS ANALYSIS STUDIES.[1]

H. M. DIXON,

FARM MANAGEMENT, WASHINGTON, D. C.

Farm Business Analysis Studies, or as they were formerly termed, Farm Management Surveys, have been in progress for about twelve years. Within this time this line of study has probably made as great advancement as that of any other phase of Farm Management research. Twelve years ago very little data on the actual financial conditions of farming in various areas or for a given type of farming were available. Today a number of the State Colleges and Experiment Stations and the U. S. Department of Agriculture have a good start in this important line of work. The results of the work so far accomplished have been of great aid in showing that, while, as a rule, no phenomenal profits can be expected from agriculture as an occupation, it is a good life work and, if capital and labor are wisely expended it will return fair wages and a moderate return on the investment. These studies have also aided in establishing some of the fundamental factors affecting profits in farming. Probably it is safe to say that they have been the leading study in this connection. Studies wherever carried on have shown that size of business, yield of crops, production per animal and efficiency in the use of labor are the primary factors for success on a majority of farms. Their importance in showing the great variation of these factors in a given locality or for a given type of farming and the effect these variations have upon farm profits can also not be over emphasized. It is quite true that farmers readily know that good cows are more profitable than poor ones and that good crops are more desirable than those which do not pay for harvesting, but farmers in all localities little realize the wide variations of these factors from farm to farm and the effect of such variations upon the financial side of their business. In a study of 378 owner farms in Chester County, Pa. (1911), 13 percent had receipts of less than $50 per cow, while 15 percent had receipts of over $100 per cow. Another study carried out in Sumter County, Georgia (1913), showed that out of a total of 268

[1] Paper read at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 13, 1919.

white owner farmers 39 percent were getting about one half a bale or less of cotton per acre, while 23 percent of their neighbors were getting over two thirds of a bale per acre. Studies in other areas show this same wide range of variation of those factors that are vital to farm profits. The analysis of the business and determination of some of the factors causing these wide variations are of much importance and when such studies are properly conducted they are a most important and valuable aid in revealing the fundamental factors for successful farming.

Naturally, the progress in business analysis studies has been more marked in the past few years than during the earlier years. The leaders of this work twelve years ago had a number of problems which are not so marked today. The training of men for the work was one large factor, another was the methods to be pursued and probably a third factor, the attitude of the individual farmer towards the business side of his occupation. As time has passed, all of these problems have become less pronounced. A number of the leading colleges of the country are training men for the field of work in Farm Management and Farm Economics. The methods of work are becoming rather well established and farmers are becoming more and more interested in the economic side of their business. High costs, together with the adoption of the income tax law, have proven to many farmers the importance of keeping better accounts of their business. In a recent study of 402 farms in Iowa for the year 1918, 34 percent were keeping an account of all the main items of receipts and expenses, 29 percent additional were keeping some accounts, thereby leaving only 37 percent of the farms where no accounts were kept. For the farms in Ohio where the study has continued over seven years, we found the first year (1912) that 20 percent were keeping rather complete accounts, 52 percent additional were keeping partial accounts and 28 percent no accounts, while for the year 1918, 36 percent were keeping a complete account, 40 percent additional were keeping partial accounts, and 24 percent no accounts. The greatest change in this area has been that many of those who formerly kept partial accounts are now keeping rather complete financial accounts.

Farm Management demonstrations have also been a great aid in establishing Farm Business Analysis studies. Men had not been in this field of work long until they found that the fundamental material necessary in establishing their work on a sound basis was in many states wholly inadequate and one of the first lines of work

carried out was that of analyzing the business of a number of farms in various sections of each state in order to establish the fundamental factors that were affecting farm profits. It represented a valuable piece of work and was successfully carried out in most states. The results thus obtained, when returned to the individual farmers, gave them a real picture of what profits could be expected from farming and pointed out some of the determining factors in returning fair profits. The studies carried out in this manner represented the results of the business analysis of thousands of farms. They later followed this line of work with a campaign for better farm accounting and through their efforts many farm account books have been kept.

Reasons such as I have indicated here explain partly at least why in the earlier days of farm surveys dependence was placed upon averages of groups of farms rather than individual farms while today we are able to make much greater use of the data from individual farms. It also helps to explain why today we are getting the data in much greater detail regarding each individual farm business including what the farm contributes towards the family living. Many of the earlier surveys received what might be termed skeleton figures or only those of the more important receipts, expenses and inventories, and for the use for which they were desired were probably as good as any. Today it is important to use business analysis data not only in the terms of an average for a large group of farms, but as a study of the individual variations affecting any particular phase of the business. The data must, therefore, be in complete enough form to enable the proper interpretation of the results of each farm.

Another phase which should be mentioned in connection with this line of work is the remarkable uniformity with which it is carried on throughout the country. With practically no exceptions the same general methods are used by the U. S. Department of Agriculture, and by the State Agricultural Colleges and Experiment Stations. Within the past few years, the Department of Farm Management of the Guelph Agricultural College of the Province of Ontario, Canada, has taken up this work under the same general methods and several bulletins have been published. This uniformity lends great value to the work and as time goes on the results obtained can be gradually added to those already obtained and within a few years, will represent a valuable fund of information. The accumulation of this kind of information will have a great value in future studies of farm organization problems as it is important to study past conditions as well as those of the present. There is also considerable uniformity in the publication of results. However, I believe if a rather uniform

method was practiced for all publications in showing a summary table of the results it would be of some advantage to those interested in getting at a particular phase of the findings. The form which we have found very satisfactory showing the summary of the farm business is given in Table III. The use of this or some modification of it will be of great aid to those interested in getting together a particular phase of the results from a number of reports or bulletins.

In the early years of these investigations in the Office of Farm Management, because of the immediate need of results it was necessary to base conclusions upon the data obtained for a single year. Great care was used in selecting areas, as it was the aim to study only areas where practically normal conditions prevailed. To throw additional light upon the subject of farm profits, studies were later inaugurated to be continued over a period of successive years in the same areas. The work has now been in progress for a sufficient length of time to allow the inauguration of the third type of study or what we term "repetition studies," that is, a survey of the same area after a lapse of a period of years. The work is, therefore, being conducted under the three types of studies as follows:

1. An investigation which covers a study of farms for a single year.
2. Studies of the same farms carried over a period of successive years.
3. Repetition studies in the same area after a lapse of a period of years.

Each of these lines of study have their place and value depending upon the aims and purpose of the work. Because of the abnormal values prevailing upon farms within the past few years, the two types of work of great interest and value are those extending over a period of successive years and those repeated in an area after a lapse of a period of years.

The results which I desire to present today will deal with some of the data obtained from a study of the same farms for successive years and also some of the data obtained from a study repeated after a lapse of a period of years.

For the successive years' studies we have the results from four areas, one each in Ohio, Indiana, Wisconsin and New Jersey. The Ohio results are from a hill land region in the southeastern section of the state. The Indiana area is located in the north central section of the state. The results from the Wisconsin area are from a dairy region and the New Jersey area is a district of rather large truck farms. A summary of the results of these four studies is shown in the following table. (Table I.)

TABLE I.—*Summary of the farm business of farms in selected areas in Ohio, Indiana, Wisconsin and New Jersey.*

Areas	Washington County, Ohio.	Clinton County, Indiana.	Dane County, Wisconsin.	Gloucester County, New Jersey.
Years Covered	7 (1912–1918).	7 (1910 and 1913–1918).	5 (1913–1917).	3 (1914–1916).
Number of farms	25	100	60	125
Farm area	159	126	148	81
Crop area	44	93	81	53
Value of real estate per acre	$31	$183	$100	$97
No. productive animal units	15.5	20.2	30.7	6.6
No. work stock	2.7	4.7	4.7	4.3
No. months labor	17.5	19.1	22.5	36.8
Investment	$6,682	$25,958	$17,692	$10,445
Real estate	4,912	23,234	14,802	7,850
Other capital	1,770	2,724	2,890	2,595
Receipts	$1,089	2,787	2,300	4,217
Important sources (percent)				
	Cattle, 23	Hogs, 42	Dairy, 49	Tomatoes, 31
	Poultry, 18	Corn, 13	Hogs, 28	Sw. potatoes, 28
	Sheep, 15	Oats, 13	Cattle, 14	Asparagus, 8
	Hogs, 13	Cattle, 10	Poultry, 4	Wh. potatoes, 5
	Dairy pro., 6	Wheat, 6		Cantaloupes, 4
	Wheat, 6	Dairy pro., 4		
	Hay, 4			
	Fruit, 3			
Expenses	$484	$931	$1,007	$2,681
Farm income	$605	1,856	1,293	1,536
Interest on investment @ 5%	334	1,298	885	523
Labor income	271	558	408	1,013
Value operator's labor	304	369	465	480
Percent return on investment	4.5	5.7	4.7	10.1

The farm area, crop area, value of real estate per acre, productive animal units, number of work stock, months of labor, and investment per farm is shown for each of the four areas. The farms are largest in Ohio, the crop area, real estate per acre and investment are highest in Indiana. The number of productive animal units is highest in Wisconsin and months of labor is highest in New Jersey. The New Jersey area represents the greatest intensity of production. The receipts are highest in New Jersey and lowest in Ohio.

The percent of the total income from the various sources gives an idea of the relative importance of the various enterprises in the different regions. In the Ohio area, cattle, poultry, sheep and hogs in the order named are the main sources of receipts. In Indiana, it is hogs, corn, oats and cattle. In Wisconsin, it is dairy, hogs and cattle, while in the New Jersey area, tomatoes and sweet potatoes are the major sources of income. The Ohio area shows the greatest diversity of receipts and the Wisconsin area the least.

The next part of this table shows the average incomes of these farmers over the periods covered by the studies. The study in the Ohio area over a seven-year period, shows them making an average labor income of only $272, or after allowing a conservative value for their own labor they have left 4½ percent return on their investment. Seven years' results are also shown for the Indiana area and the average labor income for this period is $558, and the return on investment is 5.7 percent. In Wisconsin, the five-year average labor income was $408 and the return on investment was 4.7 percent. The New Jersey area returned the highest profits and was the area with the largest size business from the standpoint of the amount of labor and working capital required to operate the farms. These farms average a little over 3 men per farm per year. For the average of the three years they returned over $1,000 labor income or 10 percent on the investment.

In the next table is shown the data for the two areas, Ohio and Indiana, where the results extend over a period of seven years. For the Ohio area, the results are from 25 farms upon which we have continued this study since the year 1912. The Indiana area gives the results of 100 farms where we have continued the study since 1910, excepting for the years 1911 and 1912. The results from these 100 farms, therefore, apply to the years 1910, 1913, 1914, 1915, 1916, 1917 and 1918. In this table the farms for each of these studies are separated and averaged for a comparison of the years before the effect of higher costs and higher prices with that of a comparison of the years affected by higher costs and higher prices. The results are expressed

in percentage. In Ohio the data for the four years, 1912, 1913, 1914 and 1915, are used as 100 percent, or what should be expected normally, for comparison with the three years, 1916, 1917, and 1918. In Indiana the average of the four years, 1910, 1913, 1914 and 1915, are used as the basis for expressing the percentage increase of receipts and expenses for the years 1916, 1917 and 1918. (Table II.)

TABLE II.—*Shows the percentage increase in receipts and expenses in the Ohio and Indiana areas for the years affected by increased prices and costs.*

	Ohio Area. (Average of Years 1912 to 1915 = 100%.)				Indiana Area (Average of 1910 and 1913 to 1915 = 100%.)			
	1916.	1917.	1918.	Average 1916 to 1918.	1916.	1917.	1918.	Average 1916 to 1918.
Receipts, percent increase.....	127	181	163	157	138	157	201	165
Expenses, percent increase.....	111	138	182	144	112	152	183	149

For each area comparison showed only a slight change in size of farms, crop area and investment. The change most marked is that of the receipts and expenses. Receipts from the Ohio area increased from 127 percent in 1916 to 181 percent in 1917, but declined to 163 percent in 1918, due mainly to the poor corn crop that year. Expenses have been rapidly rising, being 11 percent in 1916 and 82 percent in 1918 above the normal. In Indiana receipts in 1918 increased to 201 percent and expenses to 183 percent of the normal. A study of the source of income for each area shows the major enterprises returning a larger proportion of the income during the latter period of study than for former years. The increase in farm income for the two periods was 68 percent in Ohio and 74 percent in Indiana.

Table III shows a summary of the business of the 100 farms in Indiana over a seven-year period. Real estate has increased from $147 per acre in 1910 to $218 per acre in 1918. As shown from an analysis of the receipts upon these farms, no marked change has taken place in the type of farming, as hogs, corn and oats represented the leading sources of income over this period. Wheat shows the greatest variation. Corn was lowest for the year 1917 due to a severe hail storm which greatly reduced the yield of that year.

The changes most pronounced, however, are those of the receipts and expenses. The receipts average $1,911 per farm in 1910 and increased to $4,386 in 1918. The distribution of receipts upon these farms over the period of study is of interest.

Expenses averaged $624 per farm in 1910 and gradually increased to an average of $1,408 per farm in 1918. The distribution of the more important items of expense are also shown in the table.

TABLE III.—*Summary of the farm business over a period of seven years on 100 farms in Clinton County, Indiana.*

Items.	1910.	1913.	1914.	1915.	1916.	1917.	1918.	7-Year Average.
Number of farms	100	100	100	100	100	100	100	100
Farm area	116	124	126	129	130	130	127	126
Crop area	86	91	92	96	93	95	93	92
Real estate per acre	147	182	183	183	184	188	218	183
Prod. animal units	18.2	19.2	21.3	21.0	21.1	20.0	20.7	20.2
Work stock	4.8	4.6	4.8	4.9	4.8	4.8	4.5	4.7
Months of labor	18.2	18.8	18.9	19.6	19.4	19.6	19.0	19.1
Investment	$19,055	$24,936	$25,724	$26,436	$26,599	$27,822	$31,135	$25,958
Real estate	16,977	22,672	23,084	23,728	23,888	24,571	27,720	23,234
Other capital	2,078	2,264	2,640	2,708	2,711	3,251	3,415	2,724
Receipts	1,911	2,261	2,158	2,377	3,004	3,412	4,386	2,787
Sources:								
Hogs	40%	35%	40%	34%	42%	53%	42%	42%
Corn	10	15	15	15	20	8	8	13
Oats	12	9	13	15	13	13	14	13
Cattle	8	10	9	9	11	11	13	10
Wheat	11	4	6	12	[1]	1	10	6
Dairy products	2	4	5	4	3	4	4	4
Other receipts	17	23	12	11	11	10	9	12
Expenses	$624	$758	$828	$868	$864	$1,169	$1,408	$931
(Divided as follows):								
Hired labor	21%	17%	18%	18%	18%	15%	15%	17%
Family labor	8	11	8	9	9	8	8	9
Rep. and Depr. Mchy.	8	8	7	7	7	6	6	7
Rep. and Depr. House	4	3	3	3	3	2	2	3
Rep. and Depr. Other Buildings	5	4	4	4	4	3	3	3
Rep. Fences	5	5	5	4	5	3	3	4
Feed	11	10	19	15	16	33	25	18
Seed	3	3	2	4	4	3	8	4
Fertilizer	[1]	1	1	1	[1]	[1]	2	1
Machine work hired	6	8	7	6	5	4	6	6
Taxes and insurance	23	22	20	21	22	18	15	20
Other expenses	6	8	6	8	7	5	7	8
Farm income	$1,287	$1,503	$1,330	$1,509	$2,140	$2,243	$2,978	$1,856
Interest on investment @ 5%	953	1,247	1,286	1,322	1,330	1,391	1,557	1,298
Labor income	334	256	44	187	810	852	1,421	558
Value, operator's labor	312	325	332	338	349	402	527	369
Return on investment	5.1%	4.7%	3.9%	4.4%	6.7%	6.7%	7.9%	5.7%

[1] Less than one percent.

Comparing the average of the first two years with the last two, receipts have increased over this period 87 percent and expenses have increased 86 percent. For the first four years of this study the labor

income was very low but for the last three years it has shown considerable increase over the former period. The returns on investment vary from 3.9 percent in 1914 to 7.9 percent in 1918.

In connection with this study of the 100 Indiana farms there are numerous other phases which I should like to bring to your attention if we had the time to properly analyze them. For instance, the study of farm tenure on these farms. Some were operated through the entire period of seven years as owner farms, other changed from tenant to owner, still others were tenants throughout the entire period. Many changes were made also in the size of business, some were operating a much smaller business at the close of the study, while others had increased the size quite materially, and still others had about the same business throughout the entire period. The study of some of the results of these changes is of much interest and value. The yields alone make a very interesting study on owner and tenant farms over this seven-year period. Another study which we are able to make from this area is in relation to the effect of the tractor upon the organization of some of these farms. At the beginning of the period of study not one of these farmers owned a tractor, but beginning with the year 1916, a few purchased tractors and at the end of this period of study, six of these men had purchased tractors. This represents valuable information upon these farms in this connection, as it shows not only the results from years with the tractor but also the results of at least three years' operation on these farms before purchasing a tractor.

I merely cite a few instances from this continued study to show the great fund of material such studies make available, all of which is very important in connection with studies of farm organization.

I should like to refer briefly to a summary of some of the results of a study repeated after a lapse of five years. For the farm year 1913, we made a business analysis study of over 500 farms in Sumter County, Georgia, which is a cotton area. During this past spring we repeated this study in coöperation with the Georgia College of Agriculture for the year 1918.

In the next table is shown the summary of the business on the white owner farms for each of the two periods (Table IV). The farm area, acres in crops and number of work stock, are practically the same for each period. One interesting point in this summary is the large amount of labor required in operating these farms. This amounted on the average to the equivalent of about 8 men per year.

TABLE IV.—*Summary of the farm business on farms operated by white owners, Sumter County, Georgia.*

Year	1913.		1918.	
Number of Farms	268.		280.	
	per farm	*percent*	*per farm*	*percent*
Farm area-acres	420		432	
Crop area-acres	227		223	
Value real estate per acre	$34		$53	
Number of work stock	6.5		6.5	
Months of labor	95		91	
Investment	$17,021		$27,046	
Real estate	14,131		22,774	
Other capital	2,890		4,272	
Receipts:	$ 4,867		$ 8,564	
Sources of:				
Cotton	3,475	71	5,178	60
Cotton seed	520	10	962	11
Corn	133	3	412	5
Hogs	86	2	391	5
Peanuts	2	[2]	346	4
Expenses:	$ 3,205		$ 4,854	
Divided as follows:				
Hired labor	1,530	48	2,620	54
Family labor	43	1	68	1
Repairs and depreciation:				
Machinery	124	4	183	4
House	46	1	72	2
Other buildings	146	5	229	5
Fences	13	[2]	17	[2]
Feed	75	2	35	1
Seed	33	1	69	1
Fertilizer	758	24	892	18
Machine work hired	116	4	170	3
Taxes and insurance	100	3	153	4
Other expenses	221	7	346	7
Farm income	1,662		3,710	
Interest on investment 7 percent	1,191		1,893	
Labor income	471		1,817	
Value of operator's labor	476		643	
Percent return on investment	6.2		10.2	
Family use:			720	
Food products			480	
Fuel			44	
Use of house			196	

[2] Less than 1 percent.

Only 12 percent of these farms had less than 24 months of labor while 7 percent had over 240 months. There was a marked increase in the value of real estate, also a marked change not only in the amount of receipts per farm but in the distribution of these receipts as well. Cotton in 1913 occupied 57 percent of the crop area and returned 81 percent of the total farm receipts, while in 1918 it occupied 38 percent of the crop area and returned 71 percent of the farm

receipts. The enterprises of corn, hogs and peanuts showed a marked increase within this period. Expenses increased 51 percent on these farms and the distribution of expenses for each period is shown in the chart. Hired labor in 1913 was 48 percent of the total expenses and in 1918, 54 percent. Less fertilizer was used in this area for the latter period.

The average labor income of these farms after allowing 7 percent interest on the investment was $471 in 1913 and $1,817 in 1918.

The value of food products, fuel and use of house was also obtained from these farms for 1918. These amounted to $720 per farm, two thirds of which was food products and 27 percent use of house.

The next table shows the results of a study of the farm loans and interest rates on these farms for the two periods (Table V). For years the custom in this region has been for farmers to borrow each year most of the money for carrying on their business during the year. For the year 1913, 60 percent reported yearly loans and for 1918, 42 percent. The interest rate averaged 7 percent for each period.

TABLE V.—*Farm loans and interest rates, Sumter County, Georgia, 1913–1918. White owner farms.*

	1913.	1918.
Number of farms reporting *yearly* loans	160	118
Percent of total number of farms	60	42
Amount of loan per farm reporting	$ 948	$1,124
Interest rate	7	7
Number of farms reporting *mortgage* loans	101	65
Percent of total number of farms	38	23
Amount of loan per farm reporting	$4,949	$6,908
Interest rate	6.9	6.6

In regard to the mortgage loans, 38 percent of the farms were mortgaged in 1913 and 23 percent in 1918. The interest rate showed a slight decrease from 6.9 percent to 6.6 percent. The amounts per farm of both annual and mortgage loans were higher in 1918.

The amount of cash a farmer must have on hand to operate a farm in this area is a considerable item. In 1913 this amounted to an average of over $1,000 per farm, of which 56 percent was borrowed and 44 percent furnished by the operator. In 1918 the average cash necessary was over $1,200 per farm, of which 38 percent was borrowed and 62 percent furnished by the operator. A study of the

sources of cash for operating these farms for each year shows that in 1913, 39 percent of the farmers borrowed all their cash, 21 percent borrowed a part and furnished a part, and 40 percent furnished the entire amount necessary. In 1918 only 18 percent borrowed all, 26 percent borrowed a part, and 56 percent furnished all cash necessary.

TABLE VI.—*Cash for operating the farm, Sumter County, Georgia, 1913–1918. White owner farms.*

	1913.		1918.	
	Aver. Amount per Farm.	Per Cent. of Total.	Aver. Amount per Farm.	Per Cent. of Total.
Cash for operating the farm:				
Borrowed	$566	56	$474	38
Furnished by operator	449	44	773	62
Total cash for operating farm	$1,015	100	$1,247	100

	Number Farms.	Per Cent. of Total.	Number Farms.	Per Cent. of Total.
Sources of cash for operating farm:				
All borrowed	103	39	49	18
All furnished by operator	108	40	157	56
Part borrowed and part furnished by operator	57	21	74	26

The effective use of labor, mules and machinery is an important consideration on these farms (Table VII). In 1913, 57 percent of the crop area was devoted to cotton and in 1918, 38 percent. This, of course, means considerable decrease in the intensity of operation, and must be considered in a study of the results shown in Table VII. The labor cost increased from $11.45 per tilled acre to $18.43 per acre or 61 percent.

TABLE VII.—*Comparison of the use of man labor, mule labor and machinery on the Sumter County, Georgia, white owner farms, 1913 and 1918.*

	1913.	1918.
Percent of crop area in cotton	57	38
Value of labor per crop acre	$11.45	$18.43
Number of acres of cotton per mule	19	11
Number of acres of other crops per mule	8	17
Value of machinery per crop acre	$ 2.14	$ 2.71

Mules worked an average of 19 acres of cotton and 8 acres of other crops in 1913 and 11 acres of cotton and 17 acres of other crops in 1918.

Machinery showed very little change for the two periods. Because of the great amount of hand labor used on these farms, the machinery investment is small, averaging $2.14 per crop acre in 1913 and $2.71 in 1918.

TABLE VIII.—*Variation in cost of producing lint cotton per pound on different farms, Sumter County, Georgia.*

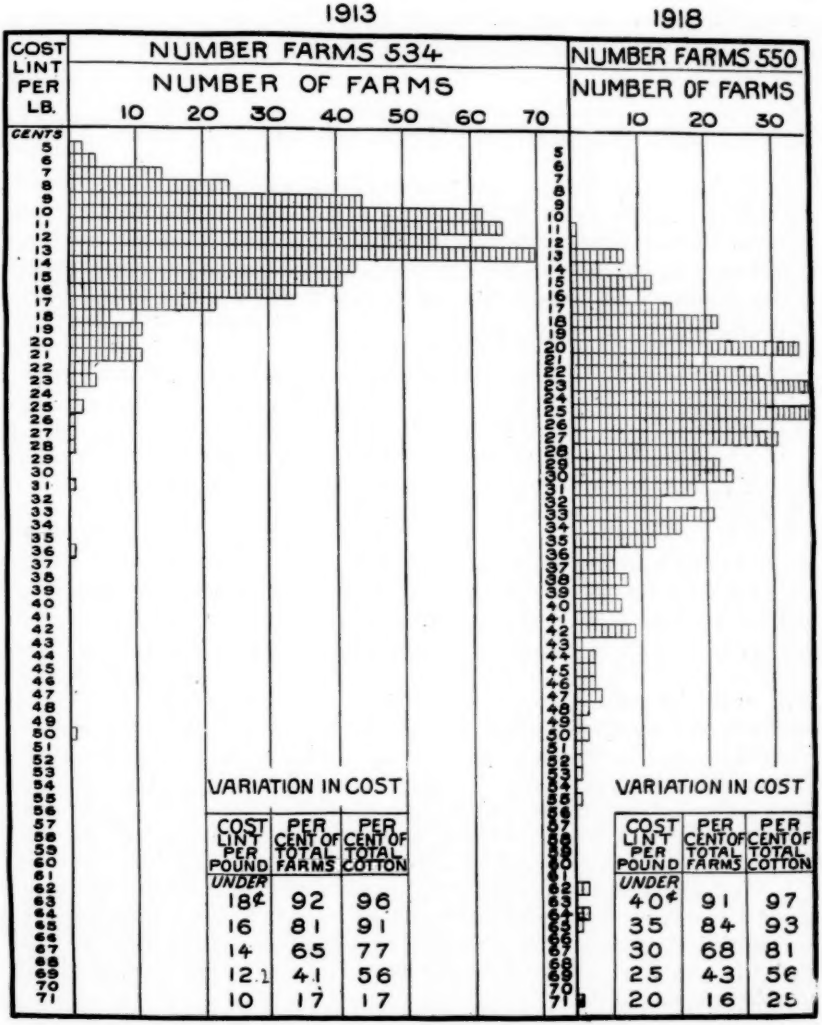

Table VIII shows the number of farms producing cotton at various costs for the two years. For 1913 we have the cost on 534

farms and for 1918 we have the cost for 550 farms. Naturally, the cost was much higher in 1918 than in 1913. There was a wide variation in the cost of production on different farms. This is true for each year. In 1913 one farm produced cotton at 5 cents per pound, while 8 had a cost above 25 cents per pound. In 1918 one farm produced cotton at 11 cents per pound, while on 10 farms the cost was above 50 cents. The chart shows that over 50 percent of the farms produced cotton in 1913 within the range from 10 cents to 15 cents, and in 1918 within the range from 20 cents to 30 cents.

THE ECONOMIC TEMPER OF THE FARMER.

At no time during the past have farmers been giving so much thought to farm management and applied economics as at the present. The writer has found them, as a class, vitally interested in all phases of economics, particularly those including cost of production, prices, price-fixing and hours of labor on the farm. A few farmers are voluntarily keeping very accurate records of their business, which they are using in directing and organizing their farms. Our most active agricultural associations in the state have called for the cost of production at their annual meetings, particularly requesting that it be a part of their programs.

The willingness with which the farmers have cooperated in obtaining costs shows the trend of thought. Most of them are appreciating that there is likely to be a let-down in price, although the cost for the next season will be fully as high, if not higher, than in 1919. Yet, wherever they have sufficient capital to allow them to pursue such a course, they are going ahead. The writer has yet to find farmers who believe that Labor had a right to decrease production by shortening its hours, or soldiering on the job.

At the same time, the farmers feel that they should not decrease production, as labor has been doing in the past, with the idea of inflating prices. They do believe, however, that with the coming of a more accurate knowledge of farm business, individuals who are inefficient in production will naturally drop out, thus materially assisting in giving the proper production for the needed consumption. In other words, they see that the individual should be so fitted to his position that he may be used in the most efficient manner possible in this great social organization. The intelligent producer realizes that this is a far more logical solution of the problem than to ask the farmers as a class to cut down production, a procedure which would tend to demoralize both the individual and the industry.

It is refreshing to feel that we have one class of citizens who stand upon a sound economic platform, who are not influenced by Bolshevistic ideas, and who are not led or intimidated in thought and nationality. If our Ship of State begins to rock they shall prove to be valuable ballast to keep it afloat through troublesome waters.

FRANK APP.

NEW JERSEY EXPERIMENT STATION,
NEW BRUNSWICK, N. J.

THE HUMAN SIDE OF FARM ECONOMY.[1]

C. J. GALPIN,

FARM MANAGEMENT, WASHINGTON, D. C.

Our discussion this afternoon has two foci, farm economy and the human factor in that economy. To set forth the human side of the vast agricultural enterprise so that the three great parties to the enterprise, the economist, the public, and the farmer may perceive how much the rural problems of each move about the focus of the purely human, is my principal aim. To suggest how meager is scientific information about the human factor, especially on the non-economic, purely human side is a secondary aim. And further to suggest that the economist, the public and the farmer will welcome humanistic specialists and organized research through these specialists into the purely human aspects of the farming enterprise, is a third aim ranking with the first.

I.

Let us look first at the rôle of the purely human in the problems of the farm economist. Let us approach this rôle, moreover, through words of the economists themselves. Professor Boss says:

> Farm Management is the application of business principles and the scientific principles of agriculture (as discovered by the chemist, the physicist, the agronomist, the animal husbandman and other specialists) to the business of farming.

I am assuming that in the mind of Professor Boss the "other specialists" mentioned include specialists on certain non-economic aspects of the human animal who appears as the chief factor in farm management; for Professor Boss, implying the dependence of farming upon subtle non-economic human forces, goes on to say:

> For the past several years it has been difficult to employ satisfactory farm help at seasons when it is most needed.
>
> Few farmers market their products in the best possible fashion. The reason for this state of affairs lies largely in the lack of community interest in the problem.

[1] (Address delivered before a joint meeting of the National Country Life Association and the American Farm Economic Association, Tuesday, November 11, 1919, at Chicago, Illinois.)

Upon the farmer quite as much as upon any other one factor depends the efficiency of the farm organization and the profits from farming.

Dr. Carver has a great deal to say about waste labor, acknowledging the helplessness of the economist to increase production, unaided by humanistic agencies. He says:

Of waste labor there are four principal kinds—the unemployed, the improperly employed, the imperfectly employed, and the voluntarily idle. In the elimination of these four forms of waste lie greater opportunities for the constructive economist than in any other direction.

The greatest source of waste labor power is vice and immorality.

To be a thoroughly equipped scientific farmer probably requires a higher education, than any of the learned professions, with the possible exception of medicine.

A progressive attitude of mind, a willingness to change, to learn a new method when it is once demonstrated to be better than the old one, is one of the first requisites to an efficient and economical employment of the labor power of a community.

However wise and efficient the government may be in its agricultural policy, if the farm managers are unprogressive, if they are under the power and domination of a superstitious form of religion or of unscrupulous demagogues, the work of the legislator will be in vain.

Dr. Nourse, implying that the human factor is susceptible of being energized or devitalized by obscure forces not under economic control, says:

In agricultural economics it is the farmer who is in all cases, the ultimate subject of our concern.

Labor in the economic sense means mental as well as physical effort, and the intellectual and spiritual qualities of individuals vary even more widely than their stature or their strength.

In 1901 and 1902 and 1903 the hook-worm formed the nucleus of jest in talk and printed items; it was then the "lazy worm." But as time and experience confirmed and added to the earlier warnings, the real meaning of the insidious enemy to the district fastened itself in the public mind; and more than one paper earnestly urged the economic as well as purely pathological importance of the disease.

Dr. H. C. Taylor, who is an optimist on ways and means of raising the farmer's output by increasing the farmer's personal quality and social status, says:

Human brawn and human brain are so important in giving direction to the other factors that man may easily be counted the most important of the three factors of production. Whatever affects man as an agent in agricultural production seriously affects the results of this basic industry.

The man with ill-health who is often unable to work, has little hope of success on the farm.

When two farmers employ equal amounts of labor and capital-goods upon equal areas of equally productive land, the one who possesses a relatively high degree of efficiency can produce a larger return than his competitor who is less efficient.

In the mind of the high-class young farmer, the life of himself and his family, in accordance with a high standard of comfort and right relations in the community, will give purpose and force to the primary economic motive and hold it in its right position as a means to an end, but not as an end in itself.

Dr. Warren, opening our eyes to the complicated human qualifications for success in farming, says:

More farmers fail because of poor farm management than because of poor production.

For success in farming, health, strength, and ability for the wife are almost as important as for the farmer.

Occasionally a man makes a fair success when he has no particular qualifications except muscle, but success under this condition is much more difficult than formerly. Good common sense which is another definition for business ability is the most important trait, but the highest profits are made by those who combine this ability with experience, scientific knowledge of plant and animal production, manual and mechanical skill, and hard work.

These quotations are sufficient, doubtless, to show how concerned the farm economist is with the human factor in farm economy as appearing in farm labor problems and farm management problems. What stands out with startling clearness at this point in the development of agricultural scientific agencies is the general absence of specialists working on the particular human aspects of the human factor which are important to farm economy. The farm economist, so far as I know, has never set up a claim to be a specialist on rural health, rural eugenics, rural psychology, rural education, or rural political science. The conclusion is forced upon us that rural economists will welcome to the study of farm economy a staff of specialists on the non-economic, purely human phase of farm life. Think for a moment of the development of scientific data on the physical, chemical and biological side of the land factor in farm economy. Think of the scientific advance in our knowledge of the capital factor in plant breeding, plant disease; and in cattle breeding, cattle feeding and cattle disease. Think of the scientific staff at work in each line. Think of the amount of money annually expended in research in all these lines. Then note the creed of the foregoing economists that production and the farmers's profits hang upon the dynamic quality of the human agent; then recall that we have as yet in our agricultural research agencies only an instance here and there, surely no widespread recognition of research, on the purely human side of farm

economy; and the human situation in farm economy is fairly spread before you on the table in its broad outline for sober consideration.

It would be a shock to many to learn how meager is our trustworthy information about the life, labor, and happiness of our farm population. Rural sociology, a very recent social science, attempting to coördinate some of the basic human sciences and apply them to farm life, has made a few bare beginnings upon the problem. Perhaps the most serious general fact corrupting the value of the statistics of "rural population" is this, that we have never had as yet a classified census of farm population. Rural sociologists are especially handicapped by this glaring defect in population statistics. Not until the farm population is sifted and sorted out of the so-called rural population, and then classified with respect to dynamic characteristics, attainments, and shortcomings can we expect national statistical information about the rural human animal for utilization in farm economy.

Psychologists have not yet deigned to study the psychology of farming, as they have the psychology of some other occupational processes, like salesmanship, advertising, and industrial management. Nor have the political scientists, with small exception, attempted to tackle the problem of why farmers possess no modern local political instruments of the character of the village or city municipality.

The arena of country life, labor and struggle, where the farmer and his family achieve their primary habits of thought and action is the farmstead,—a miniature social and economic principality. A full knowledge of the human being who is sovereign over this little rural domain is one of the keys to understanding farm economy as well as rural society.

The so-called efficiency movement of our time, which in the department of business goes under the name of scientific management, is probably responsible for the application of principles of psychology to many practical situations arising in the course of industry and commerce. It was a far-reaching discovery when the administrative staff of commercial organization seeing that goods of quality did not automatically impress the consumer and produce sales, arrived at the conclusion that buying and selling was a social operation depending upon principles underlying the processes of the human mind. The psychology of salesmanship and advertising thereupon became a fixed part of business organization.

Is it not quite possible that the promotors of scientific agriculture, in their eager and confident application of the fundamental physical

sciences to the processes of agricultural production and distribution, have arrived at the point where the human factor must be taken more completely into consideration on the psychologic side? Agricultural extension method, recently introduced widely in the United States, is a partial answer to this question; "demonstration" which is visible explanation on the spot, is everywhere the vogue. But has not the deservedly popular extension method in agriculture arrived at the same point in its development where business organization stood when it was "demonstrating" its goods without a basic knowledge of the psychology of the buying operation?

Unless agricultural promotion, research, extension, education—in both its productive and marketing aspects—is to reach a point of diminishing returns at the stone wall of the rural social mind, it apparently must add to its method, a broad recognition of the psychological and social aspects of rural life.

The environmental influences surrounding human life, labor, and intercourse on the farmstead furnish a set of pressures and strains upon farm life, the physiological, mental and social effects of which we may observe and judge. Here then is the beginning of a psychology of farm life which may, as time goes on, be elaborated by the psychologist and sociologist who happen to possess rural sympathy and farming imagination.

If the light of scientific research can be widely turned upon the farm family and the farm population, it is not unreasonable to suppose that methods of vitalizing and of energizing the present motives of the farmer as a producer and profit-maker will be found. What is still more probable, moreover, sources of brand new social dynamics through new farmer groupings, will be made available to the farm population as a whole which will add materially to our national farm economy.

It may be fairly assumed that the farm economist would be highly interested in and would welcome, therefore, a series of studies carried on by specialists after something like the following program:

A. The Farm Population in the United States.

1. A numerical census by counties.
2. A tabulation by counties of all the usual population items in the population schedule such as age, sex, color, education, literacy, marital condition and the like.

B. The Health of the Farm Population.

1. State health maps.
2. Regional maps showing areas of outstanding ailments.
3. Health studies in areas of low production.
4. Health studies in areas of tenancy.
5. Studies of the health of farm children and women.
6. Health studies of farm population engaged in the various types of agriculture.

C. The Psychology of the Farm Population.

1. Psychological studies of farm populations engaged in various types of agriculture.
2. Psychological studies of farmer organizations.
3. Psychological studies of farmers under various forms of land tenure.
4. Psychological studies of hired laborers.
5. Psychological studies of various race elements in the farm population.
6. Psychological studies of rural and urban inter-relations.
7. Psychology of extension work among farmers.
8. Psychology of backward and progressive communities.

D. The Education of the Farm Population.

1. Studies concerning the influence of elementary education of the farm population on farm economy.
2. Studies concerning the influence of secondary education of the farm population on farm economy.
3. Studies on the influence of technical agricultural education on farm economy.

E. Municipal Privileges for the Farm Population.

1. Studies of farm population groups, agricultural and social.
2. Studies of the existing charters of local government among farm populations.
3. Studies on the relation of urban municipalities to farm population groups.
4. Studies on the adaptation of municipal instruments to the conditions of open country residence.

The thoroughgoing recognition by farm economists of the value to farm economy of some such program as the above would have a profound influence upon research agencies in each state of the Union. Voiced recognition would supplement the silent welcome which I have assumed.

II.

The public is a decided party to all fundamental policies touching agriculture and the agricultural population. The public pays its share of the bills of agricultural experimentation, extension, and technical education. This fact alone entitles the public to consideration. The public especially desires assurance, I take it, that the human factor in the farm enterprise, namely, the farmer and his family, and the group of farm families associating together in community life, is reacting to the state and national expenditure in such a way that the benefits derived therefrom are relatively permanent, finding lodgment in the bed rock of rural community life and not in constant danger of being washed off the land into some urban stream. Nothing short of a systematic study of the farmer as a human being, a study holding out inducements of valuable discovery as does experimentation with swine, cattle, and sheep—can give to the public the solid assurance it needs for continuing the vast agricultural financial program.

The public is interested furthermore in the farm population—not only as efficient producers of food, but as contributors of human balance to American citizenship. In all political discussions the agrarian class is referred to, with more or less sincerity to be sure, as the backbone of the nation's integrity, justice, and democracy. From this point of view the problem of how to maintain a high standard of rural citizenship is a vital problem, but a very special one, depending on conditions which are as yet unknown only because unstudied. The structure of rural society has only recently challenged students of social life, and the sources of information are largely original observations yet to be made.

The public will probably feel more comfortable about its budget for the improvement of farming in this country and easier in mind about the Americanism of its rural population if a study of rural human conditions is made the aim of a responsible research agency in every state. The following subjects will serve as a guide to what the public would presumably like to know.

I. The Farm Family as a Basic Institution.

1. Influences at work upon the stability of the farm family.
2. Influences which produce permanency in residence or the shifting of families from rural community to rural community.
3. The relation of the farm family to urban life and energy.

II. The Religious Development of Farm Life.

1. The influence of new methods of farming upon religious thought.
2. The relation of church groups to agricultural groups.
3. The influence of a larger contact with life upon the farmer's religious ideals.

III.

The farmer himself, in many ways the most deeply concerned, is the party to the agricultural program in America most intensely interested. He wants his share of the annual national dividend and is coming to want this more and more insistently; but it should not be forgotten that he wants this dividend for the purpose of maintaining an American standard of living. And right here is the rub; for how to maintain an American standard of living on the farm, as country life is now organized, is an enigma. The average farmer from sheer perplexity of soul solves the enigma by sidestepping the main issue. He either is resigned to a lower standard of living for his family, or as soon as his profits warrant, and sometimes sooner than they warrant, he leaves the agricultural enterprise, quits the farm and farming, turning it over to inferior farmers in many cases it must be conceded; and seeks the American standard of living for himself and family in an urban center where the social tools, instruments, and machines of social power have been more fully developed. This result is plainly disastrous to the main agricultural enterprise of the Nation and is a blow to the country life philosophy of many hard-headed people who hold that prosperity alone solves the country life problem. It all too frequently takes away from the land the persons possessing seasoned farm experience, pulls up usually from rural community life the most prosperous and spirited family groups and turns the human stream into an already congested town and city current, where farm-bred persons seek more or less successfully to find their place in new life and work relations. The problem of maintaining a high standard of living for American farmers and keeping intact on the land the seasoned farm population itself is a rural human problem of the greatest moment to the farmer, the public, and the

rural economist. But this is not exclusively an economic problem. Rather it is a very complicated social, human, psychological, and political problem, having to do with a class of people whose cultural, esthetic, and intellectual aspirations have hitherto been very largely postponed by one force or another, by one set of circumstances or another.

The farmer himself will welcome, it may safely be assumed, scientific studies of the following nature:

I. The American Standard of Living for the Farm Population.

1. The social instruments of power.
2. The political instruments of power.
3. The relation of rural prosperity to standards of living.

II. Social and Political Status of the Farm Population.

1. Causes of social equality and social inferiority in the country.
2. Causes of political equality and political inferiority in the country.

Conclusion.

From the point of view, therefore, of the farm economist, the public, and the farmer, it would seem to be a stratgetic advance for the rural research agencies in state and national life to include in the field of their legitimate activities the purely human side of farm economy, along with the purely economic. This question will face especially the agricultural experiment stations in the different states. And the form in which it will come up to them will be this: Is the purely human side of farm economy susceptible of investigation by methods of a scientific character? Already some experiment stations have answered this question affirmatively, have incorporated rural social investigation into their program of research and have paved the way for other experiments stations by demonstration of scientific method in this field. It is to be hoped that the director of every agricultural experiment station will speedily take this same stand, and give opportunity for the beginnings of a research staff in every state devoted to the purely human problems of the farm population. To know the farm people of the State in their relations to farming, to community life, to political life, seems an aim worthy of every state. The U. S. Department of Agriculture is already on record as intending to study the human side of farm economy, and welcomes coöperation in the states with responsible agencies of research.

ARE FARM WORKERS' TRACTS ADVISABLE?[1]

CHARLES L. STEWART,
UNIVERSITY OF ARKANSAS, FAYETTEVILLE, ARK.

Farm workers' tracts as proposed for government land settlement projects (1) are designed as concessions to regular farm hands, more particularly those with families. Regular hands who are unmarried and casual workers whether married or unmarried may share somewhat in the advantages of these concessions. Their sharing of advantages, however, will be incidental to their lodging with married men who may occupy the tract homes.

Advantages claimed for the proposed system of independent tracts for workers are briefly summarized as follows:

1. Non-agricultural workers whose services are needed in rural communities may be induced to become rural citizens rather than to remain in town. Carpenters and blacksmiths are particularly designated.

2. Workers can have more voice in determining the kinds of dwellings and tracts they want to occupy. Some will want to build better houses and handle more garden ground than they might expect to get if taking that which employers supply as a "tenant" homestead for employees.

3. Occupiers can exercise greater freedom in conducting gardening and poultry operations and may, therefore, be expected to achieve results more advantageous to them both educationally and financially.

4. Workers and their families will have a more self-respecting social position.

5. Tract occupiers will obtain experience in business lines more rapidly and will be able to undertake full farm responsibilities after a briefer apprenticeship.

Some of the advantages enumerated seem to have been attained on a limited scale in New Zealand, Australia, Ireland and some continental European countries. For the most part, however, it is safe to say that independent farm workers' tracts lead a more precarious existence wherever the conditions of agriculture are dominantly extensive. Reasons for the antagonism that extensive agriculture sets

[1] H. R. 487, a bill for a National Soldier Settlement Act, Sec. 4 and following.

up against the intrusion of "small holdings and allotments" may be classified as static and dynamic.

Static Considerations.

1. Extensive agriculture, especially when livestock figures in the operations, requires the maximum focusing of farm activities at the barn and in its immediate vicinity. Such concentrating of chores, repairing and activities before and after field trips is necessary to offset the killing effects of distance between parts of the farm. All hands should be found continuously near the working center of the farm if the economies of extensive agriculture are to be realized. Dependence on workers coming from homes off the farm is a most serious handicap. If such dependence were general, agriculture would be less productive and the economic condition and outlook of farm hands less hopeful.

2. Intensive farming is best carried on in the suburbs of cities or in localities where a large volume of produce of such varieties is marketed. Efforts by a mere sprinkling of growers on tracts of from two to five acres[2] to develop a production of fruit, vegetables or animal products competitive with commercial growers can seldom succeed. If scattered at necessarily wide intervals and if extended into the parts of the communities remotest from shipping points (these being the parts in which regular workers are most needed) workers' tracts will not afford proper bases for establishing successful gardening and husbandry. "Small holdings" hold small prospect of giving farm workers opportunity for more economical use of spare time and surplus energy than that made available within properly controlled limits by employing farmers under the present system.

3. A worker's family occupying a "tenant" house provided by an operator may undertake to board and lodge other workers who reside close to the working center of the farm. For the worker's family that can handle such enterprises profitably this opportunity may mean a considerable supplement to the wage income.

Dynamic Factors.

Some dynamic considerations follow:

1. As changes take place in the personnel of the tenantry of the workers' dwellings provided by employing farmers, adjustments to the whims and needs of each worker's family are effected in due

[2] Hearings before the Committee on the Public Lands of the House of Representatives, Sixty-sixth Congress, first session, on H. R. 487, Part I, page 32.

course. One worker wishes to have barn room for horses or cows. His successor wants more opportunity to let his poultry or larger livestock range in fields or pastures. His successor wants the privilege to put in a few acres of potatoes on his own account. The farmer may not always give the worker everything he requests. It is a well-known fact, however, that a fair share of hired men have occasion each year to credit their employers with wisdom in restraining them from undertaking more private activity than they can afford to take time off to care for.

2. The present system holds assurance that the "tenant" tract will be utilized in one way or another regardless of the ebb and flow of married "men" in the farm labor population of a community. If the "tenant" house ceases to be needed or usable as a residence it may become a storage structure for produce or implements. Land not needed by workers may return to service as a part of a field. If a few years suffice to restore the need for a worker's dwelling and tract, it can be built or the employer as he moves into a new home may yield his former dwelling and garden space to the worker. In new countries, particularly, one encounters such relaying in the occupancy of houses on a farm. Considering the utter absence of a market for specialized rural residences there is sound economic reason for alternating the uses to which dwelling-houses are put prior to their final removal.

3. The present arrangement for supplying workers with dwellings and tracts yields some social advantages that independent workers' tracts might not outweigh. The two or more households found in a cluster at the working center of an American farm constitute the equivalent of the European peasant village. They are the nearest approach to a farmers' village that we can expect in most parts of the country. Dependence of the black race has not permitted decentralization of rural habitations to proceed as far in Southern states as would have been the case with a less dependent race in place of the negroes. Military considerations, since Indian raids have stopped, have wielded little influence on the formation of farm villages either in New England or in the Spanish Southwest. Telephones, free mail delivery and motor transportation bid fare to make farm villages unlikely as a factor in American agriculture. With economic forces holding at least one household all the more tenaciously to the working center of the farm as time progresses, those who think that two families are an irreducible minimum in producing a tolerable social life can find little comfort in a plan to further rural isolation by putting the workers on tracts outside the line fences of the farms.

Would the interchange of views between an employer's family and an employee's family be more likely to be as educative in matters of technique and as sympathetic in its democracy as that which the present system affords?

4. An independent system of workers' tracts must lack many elements of flexibility needed to accommodate the movements and developments of the workers. Changes from tract to tract on the estate of the same employer, or from the tract of one employer to that of another, or from the status of a worker to that of a farm operator, or from that of a farm worker to that of a worker in some other occupation, are phases of individual choice. The acquisition of an independent tract is likely to impose restrictions on the choice of employers, occupations, and tenure status. To require of the government that it place upon the occupiers of tracts in the independent system no responsibilities except those lying upon leaseholders is assigning to the government the rôle of a perpetual landlord. Certainly the most ardent advocates of land nationalization would prefer to enter the wedge in some other part of the scheme of rural tenure. To require ownership of these tracts by farm workers is to require a speculation in rural residence property that few realty dealers would consider at any price.

Time as a Factor in an Adequate Test.

Before we shall assume that two years of experience with workers' tracts at Durham, California, are sufficient to declare workers' tracts a proper feature to implant throughout American agriculture, we do well to estimate the stages by which conditions may be expected to change in settlement areas. During the first few years workers' tracts may serve a useful function. The burden of debt hangs heavily upon all the members of the community, and there is little likelihood of shifting of property lines for a number of years, possibly a decade. In the course of time, however, changes in the number of working members in the family, in the physical strength of farmers and their wives, in the rotational prominence of grazing or cotton as compared with cropping or corn, and changes in the wealth of the farmers will cause some of them to want more land and others to want to part with some or all of their acreage. As the boundaries of farms shift, workers' tracts that were formerly located so as to be easily accessible to the working centers of the original farms will come to be awkwardly located relative to the new layouts. Workers' tracts that had equipment and acreage satisfactory to the original occupiers will come to be too large or too small, over-equipped or

under-equipped. Suppose the families best supplied with boys happen to be resident on workers' tracts. Will the occupiers be able to hire or purchase land with which to convert their "small holdings" into full-fledged farms?

Consciousness on the part of owners of family farms that the workers' tracts may become the nuclei of competing family farms is not likely to be keen until several years after the settlement colony is planted. When clearings are pushed out to line fences and the remotest fields cultivated with machinery expensive to operate otherwise than with the minimum of turning, the enthusiasm with which the request of a tract occupier will be met when he asks to hire or purchase five acres more running still deeper into the field of the family-farm owner will be still less than that shown by such owners when school boards try to enlarge the playground of a school plant taking a valuable patch of ground out of an otherwise rectangular field. If the occupier of the workers' tract has previously disagreed with the family-farm owner, possibly while in his employ, and if the tract occupier has pursued a lax policy in keeping his poultry from invading the adjacent field on foraging expeditions, the chances for an enlargement of the acreage and of the operations of the tract occupier may be restricted to lands located farther down the road. There can be little question that many tract occupiers would find themselves economically, if not socially, ostracised by neighbors brought to a clear understanding of the fundamental hostility of "small holdings" to extensive agriculture when enclosed within the same community.

If a governmental preference is exercised in the special interest of the workers as tract occupiers it can only be at a loss in workers' wage-earning power and in property values.

If "married men" hiring themselves out as farm workers seek larger opportunity to carry on private enterprises, they will find most farm operators ready to make concessions. The wise farmer knows, however, that too much concession of this kind does not economize labor when it is dear.

It may be urged in conclusion that the problem of rural housing needs specific attention. In practice there is too low a minimum of space in houses, the walls are not sufficient protection against extremes of weather, screens are inadequate, and water supply is not properly cared for. Legislative and other steps to deal with these problems will not segregate the farm hands as the sole beneficiaries. Tenants are in similar need for protection and many owners themselves. What is needed is not a new kind of land tenure, but the establishment of rural housing codes.

REPORT OF THE INVESTIGATION COMMITTEE OF THE AMERICAN FARM ECONOMIC ASSOCIATION.

The committee on investigations submitted the following report for 1919:

A large number of economic problems present themselves at this time in a very forcible manner. Their importance can hardly be enumerated in their order, inasmuch as each locality may find one more important than the other for their conditions. With this understanding, the committee has attempted to present some of the most pressing problems with which we must contend at the present time.

I. Price Relationships.

Price relationship studies should be made with two objects in view.

A. To compare the price of farm products measured in terms of currency as well as labor with that of manufactured products.

B. To assist in interpreting the possible trend of production for the various agricultural enterprises.

II. Future Production.

Studies should be made on the economic future of general agricultural production, as well as the individual enterprises of agricultural production to interpret the probable trend it will take during the future. This will require information concerning the demands for agricultural products in America, from both home and foreign markets.

III. Marketing.

A. The economics of marketing should be studied in such a way that the cost of distribution, the practices of distribution, and the clear relation of the cost of different practices followed in distribution would be obtained. This should serve a two-fold purpose, namely, to acquaint the public, including both the consumer and producer, with the facts concerning the profits obtained by the distributor. If these facts were known, probably we would have far less propaganda concerning profiteering, an all too common suspicion that the distributor is taking too large a toll for his services. Such suspicion is detrimental to both producer and consumer.

B. To determine good and bad economic marketing practices now existing.

IV. Farm Capitalization.

The matter of financing a farm is becoming more complex from year to year. Successful methods of acquiring farms by the present-day farmers should be obtained in a more comprehensive way. Results of such investigational work would be of very great value for the individual and the State. State or Federal action taken to assist the farmer in acquiring and capitalizing a farm will need such information as a sound basis.

V. Land Tenure.

The increased number of tenant farms brings that problem to the front and will require careful action to meet it properly. Investigations concerning forms of tenancy which makes a tenant, as well as the community in which he resides, prosperous, both as an individual and a community, should be conducted in different regions of the United States. What is the most desirable lease for a tenant? How can he become an owner? Is his status as a citizen equal in efficiency, opportunity and enjoyment of life as the owners? If not, why not?

VI. Farm Labor.

The phenominal prosperity of city industries has made the farm labor problem acute and in some cases distressing. On the other hand, we find that certain farmers appear to have no trouble with the farm labor, which is in direct contrast to others who have suffered material hardship through the scarcity of labor or their inability to obtain satisfactory farm labor. Under what conditions do we find farm labor most efficient and best satisfied? What is needed to make farm labor contented and willing to remain on the farms? Is it housing, social conditions, more pay, shorter hours, easier work, nature of work, or attitude of the employer?

VII. Machinery and Equipment.

The machinery and equipment of a farm should be investigated with a viewpoint of obtaining more basic information concerning the cost of machinery in production as well as efficiency of kinds of machinery in production. The farm tractor and truck are making this problem a more complicated one. New and revised machinery is

continually calling for further information concerning the time and place for its use.

VIII. Farm Organization.

A. The organization of the individual farm as well as farm communities, should be studied with the viewpoint of obtaining the best organization with the given conditions and present-day machinery. Prices of farm labor have advanced and more efficient machinery is being used to replace the labor leaving the farms. Will that affect the marginal land which is farmed at the present day? Will we have more or less abandoned farms?

B. In what way is the farm organization affected with the use of a tractor or truck? Will the farm be increased in size, will they grow larger acreages of some crops and less of others, will it affect the farm type and livestock production? In what way will the farm truck affect the farms distant from the railroad in marketing the products?

IX. Farm Balance or Relation of the Farm Enterprises.

The most economic farm balance of the communities should be investigated so as to make the farm a more efficient unit. Recent changes in machinery and markets are continually affecting the farm balance.

X. Farm Enterprise Organization.

The individual enterprises of the farm need material attention given to their proper organization from an economic viewpoint as a productional factor. A poultry farm should have what proportion of pullets, what proportion of yearlings, and what proportion of older hens to make the most efficient poultry unit? A dairy herd should have how many heifers added each year to replace the cows which have passed their useful period in milk production When does this useful period end in the ordinary herd in a given section? In what way will soil and climatic differences affect the cropping enterprises? To what extent should one crop be curtailed and the other enlarged?

XI. Farm Practices and Maintaining Fertility.

Livestock occupy a very important place in the maintenance of fertility on the American farms. Should they be increased or decreased in a given community? To what extent do they actually influence fertility when measured in terms of crop yields? To what extent

can they be replaced when the sale of crops through livestock does not prove profitable when the question of fertility is ignored? In the vegetable gardening sections, in the trucking sections, and other intensive cropping sections of the United States, to what extent can stable manure be profitably replaced through green manure crops and commercial fertilizers?

XII. Land Values.

The price of farm lands has advanced materially in some sections of the United States. Has it followed the trend of the general inflation or is a new price level established? How much is speculation? Have we reached the peak of land values for the present?

Sectional Reports.

South Atlantic, Gulf Coast and Lower Mississippi Valley States.

1. Livestock as related to organization and economic returns on southern farms. These investigations to be planned and directed to determine:

(*a*) The real place of livestock in the agriculture of the cotton, peanut and tobacco sections.

(*b*) The most satisfactory classes and types of livestock to produce.

(*c*) Most satisfactory system of livestock management for the Coastal Plains, Piedmont and Southern Mountain regions.

(*d*) Pastures as related to farm management and livestock production.

(*e*) How to fit pastures into southern agriculture.

(*f*) Farmers' experience in making and maintaining pastures.

2. Farm organizations and the coördination of crop and livestock enterprises in:

(*a*) Mountain regions of Virginia, North Carolina, South Carolina, Tennessee, Georgia and Arkansas.

(*b*) Tobacco and Grain Sections of the Piedmont Region.

(*c*) Cotton and Grain Sections of the Piedmont Region.

(*d*) Tobacco, peanut and cotton sections of the upper Coastal Plain region.

3. Cost of production covering tobacco, cotton, peanuts, corn and several of the minor enterprises, in selected areas.

4. Detailed study of enterprises and farm practices on successful farms.

EDITORIAL NOTES.

This issue of the JOURNAL contains an article dealing with Farm Business Analysis Studies. It touches briefly upon the early history of this work but deals more particularly with the methods of work and the vast amount of material that such studies make available when properly conducted. The author states that one great accomplishment of this work is the uniformity with which it is carried out. He points out that the next important step is more uniformity in publishing the essential facts brought out by such studies. It is recognized that a discussion of the results of such studies will vary from state to state or area to area but all these studies contain what may be termed summary statistics that may be made ready reference if they are placed in a summary table in all bulletins. Table 3 in this article is an example of the vast amount of information such a summary affords. Tables similar to this have been published in Wisconsin Experiment Station Bulletin No. 300 and United States Department of Agriculture Bulletin No. 716. We should be pleased to have the suggestions of other workers in this connection.

* * *

The JOURNAL OF FARM ECONOMICS was not issued as a quarterly publication during the year 1919. There are only three numbers in Volume 1. These numbers were published in June, September and October. A few members of the Association have written to this office asking for copies of Volume I, Number 4. Possibly this misunderstanding may have come about by inference, because in some of the preliminary announcements which were sent out by the Secretary it was stated that the JOURNAL would be published as a quarterly. The funds at the disposal of the executive committee were somewhat limited last year and it was not possible to prepare and send out more than three numbers. We trust that this brief announcement will serve to correct the wrong impression which has been created.

NEWS ITEMS CONCERNING MEMBERS.

Mr. S. A. McMillan, formerly Professor of Farm Management at the Agricultural College, College Station, Texas, has resigned to engage in private business at Chenango, Texas.

Mr. P. K. Whelpton, who was in charge of Farm Management Demonstration work at University Farm, Lincoln, Nebraska, during the past year, has recently been appointed as Professor of Farm Management at the Agricultural and Mechanical College, College Station, Texas.

Mr. S. O. Jayne, of the Office of Farm Management, U. S. Department of Agriculture, recently tendered his resignation. We understand that Mr. Jayne will take up commercial work. During the past year Mr. Jayne was employed in coöperative work with the Washington Agricultural College and Experiment Station at Pullman.

Mr. D. A. Brodie, who began work in the Office of Farm Management, U. S. Department of Agriculture, shortly after this office was organized, resigned December 31, 1919. He has accepted a position with the Western Sulphur Co., First National Bank Building, Cheyenne, Wyoming. Mr. Brodie writes that his work for the next few months will be to make an investigation of the extent of the use of sulphur and sulphur compounds in soils of the western states, particularly those soils that are alkaline in character.

Mr. George H. Miller, who has been in the employ of the Office of Farm Management since March 1, 1912, resigned during the month of February and has taken up the fruit and produce business at Albion, New York. During the past eight years Mr. Miller devoted his attention to a study of the cost of producing apples in several typical fruit districts in the United States.